GREAT CENTRAL

George Dow

VOLUME ONE THE PROGENITORS, 1813 — 1863



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GREAT CENTRAL

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IT CAN NOW BE REVEALED
THE FIRST RAILWAY IN NORFOLK
THE STORY OF THE WEST HIGHLAND
THE FIRST RAILWAY BETWEEN MANCHESTER AND SHEFFIELD
THE FIRST RAILWAY ACROSS THE BORDER
THE ALFORD & SUTTON TRAMWAY
BY ELECTRIC TRAIN FROM LIVERPOOL STREET TO SHENFIELD
BRITISH STEAM HORSES
EAST COAST ROUTE
THE THIRD WOODHEAD TUNNEL

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The small oval emblem is the first known transfer of the MS&L heraldic device and was displayed on the door panels of main line coaches. It contained parts of the arms of Manchester (ship), Sheffield (arrows), Lincoln (cross and fleur-de-lis), East Retford (eagles), and Great Grimsby (boars' heads), and was still being printed as late as 1888. Above, left, is its successor, shown on the locomotive green in use when the MS&L became the Great Central; the same arms are repeated, but rearranged around a rose, thistle and shamrock device. A similar design,



chalcolying a white garter lettered in gold (shaded light blue), was displayed on coaching stock. Top, right, is the MSJ&A mig stock. Top, right, is the MSJ&A morporated denoted the original owners of the line. Part of the arms of Lord Francis Egerton, Earl of Ellesmere, is surrounded by Manchester (top), Birmingham (left), Sheffield (right) and Altrincham (bottom). All three designs were printed by Tearne and Sons Ltd. of Birmingham, who first produced the transfer in 1856.

GREAT CENTRAL

by GEORGE DOW

F.R.S.A., M.INST.T., ASSOC.I.LOCO.E.

The Progenitors, 1813—1863

LONDON:

Locomotive Publishing Co Std.

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Foreword

I regard as an honour the invitation extended to me to contribute a fore-word to the history of the Great Central Railway, a company with whom I was privileged to serve for some sixteen years before entering technical journalism in 1919. It is indeed gratifying that so eminent a railway historian as George Dow should have chosen to sacrifice much of his leasure from the exacting duties of a railway officer to undertake so onerous and complex a task. His is a story of the boldness and pertinacity of the railway pioneers, of the conflicting and competitive railway schemes which account for so much of the high capital cost, and indeed of the heavy operating expenses, of British railways as compared with those abroad where development was more orderly and often to an all-in plan.

It is a story, told in the author's inimitable style, of enterprise, grit and determination. These and many other qualities were displayed in the formation in 1846 of the Manchester, Sheffield & Lincolnshire Railway, which had its origin in the Sheffield, Ashton under Lyne & Manchester Railway. Founded in 1835, the latter's chairman was the enterprising Lord Wharn cliffe, a name familiar in the railway world, whose grandson was the last chairman of the MS&L and the first chairman of its successor the Great

Central.

The story indeed is one of constant struggle against almost overwhelming odds, against stern fratricidal competition and against early duplicity, as seen in the machinations of Captain Huish, the coldly calculating general manager of the London & North Western Railway, arch enemy of the Great Northern (with whom, notwithstanding, the MS&L later formed a close and natural alliance) and presiding genius of the notorious 'Euston Square Confederacy'. If ever a villain stepped out of a Victorian melodrama it was Captain Huish.

But if Huish was the villain Edward William Watkin was its hero. Appointed general manager of the MS&L in January 1854, Watkin had no doubt learned some of the tricks from Huish, whose assistant he had been. Nevertheless, he was a liberal-minded man, and the author tells us of his sympathy with the staff, an attitude rare enough in those days. He succeeded James Allport, who later distinguished himself as general manager of the

Midland Railway, and he proved more than a match for Huish.

Watkin sowed the seeds of an alliance with the Great Northern and to his efforts was largely due the formation in 1858 of the Railway Companies' Association, which promoted inter-company understanding and was to facilitate railway management and government control in two world wars. He it was who inspired the extension of the MS&L to London. The company

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had achieved its founders' aim by providing a link between Merseyside and the Humber via the industrial areas of Lancashire and South Yorkshire. It was now necessary to venture farther afield and perhaps in due course to reach the Continent via a Channel Tunnel!

My mother used to tell me how I romped as an infant with the great Sir Edward Watkin. This fact may have had something to do with my securing at an early age employment at the headquarters of the Great Central, which were then still at London Road station, Manchester. Only a few years before the MS&L, after much tribulation, had completed its route south from Sheffield via Nottingham and Leicester and a junction with the Metropolitan Railway to achieve its entry into London... No wonder it was known to Metropolitan men as 'The Cuckoo Line'! Thus it became one of the 'Greats', much to the annoyance and apprehension of its new and more powerful neighbours by whom, not unnaturally, it was regarded as an interloper.

How to make the railway pay was the problem which confronted the energetic and ebullient Mr Sam Fay, under whom I was to serve and who a year or two previously had resigned the superintendentship of the London & South Western Railway in order to succeed Sir William Pollitt as general manager of the Great Central. In this task Fay had the active support of his chairman, Sir Alexander Henderson, well known in the City of London, which he represented for many years in Parliament, and later famous as the first Lord Faringdon. Among the achievements of these two eminent men was the creation of Immingham to act as a companion to the company's Grimsby Docks and, available at all states of the tide, to serve as a bunkering port and an outlet for the South Yorkshire coalfield, which they did much to encourage and exploit.

I was privileged to attend, as an assistant in the ceremony, the official opening, on 22nd July 1912, of Immingham Dock by King George V, who was accompanied by the Queen and Princess Mary. One of my pleasantest memories is of surprise and delight at witnessing an order to my chief to kneel on the dock-side to receive at the hands of His Majesty the accolade of knighthood. Happy also are my recollections of that evening's celebrations at the Royal Hotel, Grimsby, to which I and other 'assistants' were invited by

Sir Sam Fay.

Soon our headquarters were moved from London Road, Manchester, to Marylebone station, London, in offices facing the Hotel Great Central, now the home of the British Transport Commission. What memories that station invokes! Few, very few, trains (that was before the opening of the Great Western & Great Central Joint Line) and, with Mr Blanden the station master, looking out upon an assortment of nursemaids and their charges promenading with their prams in an otherwise desolate circulating area. But business grew, and so did the work. Railway Bills or other contentious measures were still being promoted, and ever and anon there were visits to be paid for or with the general manager to the Parliamentary committee rooms where, even in those days, morning dress (top hat and tail coat) was still in

Foreword vii

favour, if not de rigueur. Yes, how to get traffic? Sam Fay must have been one of the first general managers to realize the value of publicity. Some of the early posters emanating from the publicity office in Marylebone Road come readily to mind. 'Each Express is vestibuled and has a Buffet Car attached available for first and third class passengers' the half-a-crown grill lunch became famous and 'Stand not upon the order of your going but GO – to Stratford-on-Avon by the Great Central Railway' are easily remembered slogans

I cannot conclude these random reflections without expressing personal gratitude to the memory of the last of the Great Central general managers for his encouragement of the younger men. Determined to break down the barriers of departmentalism he instituted a 'Higher Grade Staff' scheme of competitive examination, success in which was rewarded by higher pay and a four-year tour of duty in all phases of railway work. This created a small body of men intent to get on and to train for the higher ranks of the service. Once a month, on Saturday afternoons, they foregathered at some central point 'they had the privilege of all-stations passes; to discuss mutual problems – present and future. These pre-war talks gave rise to the conviction that our calling needed facilities for the universal study of the science and art of transport in all its branches. This idea was consummated in November 1919, with the founding of the Institute of Transport, of which I and some of my erstwhile colleagues were fortunate in being elected Foundation Members and of which I am happy and privileged to be a Past-President.

DAVID R. LAMB

Barnstaple, Devon December 1958



Author's Introduction

The histories of many of the British railway companies which, with one exception, lost their separate identities when grouping became a fait accompli at the beginning of 1923, have now been written. The Midland, the Great Northern and the North Eastern were amongst those railways dealt with, the last-named very thoroughly, early in the present century. During more recent times a comprehensive history of the Great Western has been compiled, and the Highland, the Great North of Scotland, the North British, the North Staffordshire, the Great Eastern and, again, the Midland, have received attention. Nor have the smaller companies been overlooked, ranging from the Colne Valley & Halstead, the Cambrian and the Furness, to the railways of South Wales, of the Isle of Wight, and of London.

A notable exception has always been the Great Central and its prede-

cessors, the earliest of which began to operate as long ago as 1841.

I was Press Relations Officer of the London & North Eastern Railway for the greater part of the last decade of its existence. In that capacity one of my most pleasant duties, being a railway enthusiast as well as railwayman, was to assist those interested in railways, either for professional reasons or as a hobby – authors and lecturers, modellers and journalists, photographers and educational bodies – with all kinds of information about the LNER and its constituent companies. Of the latter there were often more queries concerning the Great Central than all the others put together.

One reason for such interest in the Great Central was undoubtedly the lack of a comprehensive history. But others were, I believe, its stud of handsome locomotives, its leadership in through services and in signalling, and its colourful development, which was one of continuous struggle against more

prosperous and more powerful rivals surrounding it on all sides.

The Great Central came into existence on 1st August 1897 not by amalgamation but by a change of name. Until that date it had been the Manchester, Sheffield & Lincolnshire, a cross-country system formed over half a century earlier from allied companies whose primary object had been to link Manchester in the west with Grimsby in the east, via Sheffield. Any comprehensive history of the Great Central must, therefore, begin with the earliest of these allies and the circumstances which gave rise to its inception.

This means covering a period of well over a hundred years and to do so adequately within the confines of a single volume, amply illustrated as any history should be, would produce a most unwieldy book. To give the subject the thorough treatment it deserves I have accordingly divided my history of the Great Central into the three parts into which it naturally falls, and the present volume takes the reader from the earliest days to 1863, to

embrace the story of the South Yorkshire which by then was to all intents and purposes part of the MS&L. Volume two will cover the long period in the life of the MS&L when Mr (later Sir) Edward Watkin was at the helm. The final volume will deal with the Great Central and the two railways it absorbed early in the present century, the Wrexham, Mold & Connahs Quay and the Lancashire, Derbyshire & East Coast, concluding at 31st December 1922.

If it is to fulfil its purpose, a work of this kind must lean heavily on official records. In this respect I have been fortunate, having enjoyed the support of the LNER management headed by its Chief General Manager, Sir Charles Newton, when the collection of textual and illustrative material was taken in hand from 1943 until 1947. In more recent years, frequent reference to official records has been made easier by the wise policy of systematic preservation followed by the British Transport Commission and implemented so efficiently by its Archivist, L. C. Johnson, and its Curator, J. H. Scholes.

But the bones of records must be given the flesh of illustration and the blood of tradition, practice, experience and anecdote if a railway history is to come to life, and in these respects I have again been fortunate, for many former MS&L and Great Central men, and other railwaymen and railway enthusiasts, came forward with illustrations or information of value; a few, indeed, continue to do so.

Several Great Central officers were, luckily for me, blessed with longevity and long memories, and I was able to glean some first-hand knowledge from Sir Sam Fay, J. G. Robinson, A. F. Bound (to whom I am indebted for authoritative signalling information), E. A. Clear and S. L. Murgatroyd before their deaths. Others, happily, are still with us, notably G. Leedam and C. Dandridge, both of whom provided me with some piquant reminiscences; A. E. Megson, who gave me a complete set of The Great Central Railway Journal, an indispensable reference; and E. Boreham, who carried out some painstaking locomotive research on my behalf. To David Fay (son of Sir Sam) who, after two years with the Great Central, was seconded to Dean & Dawson Ltd and eventually became its Director & General Manager, I am indebted for various historical data. And to D. R. Lamb, an old friend, who left the Great Central to become the distinguished Editor-in-Chief of Modern Transport, my especial thanks are due for writing the Foreword which Sir Sam, the doven of pre-grouping General Managers, had promised to undertake a few years before he passed away.

Outside the circle of Great Central men there are several, including railway officers and staff, to whom I wish to record my gratitude for their help and interest at various times. To Stewart Dewsbery, another valued friend, an authority on the Lancashire, Derbyshire & East Coast Railway and an ardent Great Central enthusiast who has a remarkable flair for locating rare railroadiana. To Reginald Taylor, P. C. Dewhurst, V. R. Webster, the late H. F. Hilton and the late H. G. King, all of whom have given me invaluable information, especially as regards railway and locomotive development in the earlier days. To S. W. A. Newton for several photographs of great historic

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There are many others who, mainly by offering information, have helped to make this history complete, and are too numerous to mention here. Most of them are listed on the following page and to them all my thanks are due.

Hampstead, N.W.6

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Seal of the Peak Forest Canal, one of the oldest components of the Great Central. It was incorporated on 28th March 1794 and acquired by the Sheffield, Ashton-under-Lyne & Manchester Railway on 25th March 1846.

The Earliest Schemes

The genesis of the Great Central Railway can be traced to the need for better communication between Manchester and Sheffield than that provided by the canal system which, hampered by the physical barrier of the Pennines, circuitously linked the two places via Ashton-under-Lyne, Huddersfield, Wakefield, Barnsley and Rotherham and involved goods in a journey time of eight days. Even the best route by horse and cart took two days to accomplish.

East of Manchester, joining the Ashton Canal near Dukinfield Bridge, ran the Peak Forest Canal to Bugsworth, with a spur to Whaley Bridge. In September 1813, William Chapman (1749 1832) of Murton House in County Durham, who later projected a scheme for a canal from Castle Orchards, Sheffield, to the River Dun below Tinsley, made a report in which he suggested a way of linking Sheffield and Manchester more conveniently. His report is of interest because besides being an eminent canal engineer, Chapman had by that time taken out a dozen patents, one of which, for a steam locomotive, clearly marked him as the original inventor of the pivoted bogie. His proposal was to build a railway, instead of a canal, up the Sheaf vale from Sheffield to the foot of the mountainous ridge at Strawberry Lea, climbing the rise of nearly 440 feet in 6 miles 70 chains by means of six inclined planes, three up and three down. These planes would be worked by 12 horse-power steam engines which he estimated could move a peak limestone traffic of 600 tons a day. The narrowest part of the East Moor ridge was then to be pierced by a 23 miles water tunnel terminating on the western side near Padley Mill on Burbage Brook thence, by means of a short canal, connect with a projected High Peak Junction Canal running westwards to Chapel Milton, to which point the Peak Forest Canal had powers to extend from Bugsworth.

Chapman's scheme was not pursued and the idea of a junction canal between Manchester and Sheffield remained dormant until the spring of 1824, when it was revived in the form of a much more extensive project. This was called the Grand Commercial Canal, designed to unite the Sheffield, Cromford, Chesterfield and Peak Forest Canals and was evolved by Joseph Haslehurst, civil engineer, of Unstone Colliery, near Sheffield. It consisted of a 'main line' from the Peak Forest Canal at Chapel Milton to Chesterfield, tunnelling under East Moor between Grindleford Bridge and Smee Cliff

¹ A History of Railway Locomotives down to the end of the year 1831 by C. F. Dendy Marshall (953).

² Fully described, with map, in Haslehurst's Second Report, dated 10th December 1824, and printed by J. Roberts of Chesterfield (Derby Public Library).



The Pennine barrier: The approach to Peaks Hole, near Castleton, engraved by George Cooke from a painting by Mrs Oates (from *Peak Scenery 1818–1823*, by Ebenezer Rhodes).

Wood, an extension from Chesterfield to the Cromford Canal at Buckland Hollow, and a branch from the Sheffield Canal to Killamarsh via Beighton. The total estimated cost exceeded half-a-million pounds. Soon it was contending with five proposals for linking Sheffield and Manchester by means of a canal from the first named to the Peak Forest Canal, three being via Edale, the fourth (proposed by Thomas Bishop) via Castleton and the fifth, for which the sponsors incurred the expense of employing the eminent civil engineer Thomas Telford, via Penistone. They ranged in length from 22 miles to 301 miles, and in probable first cost from £357,400 to £488,700.

The death knell of the Grand Commercial Canal scheme was sounded when the Cromford & High Peak Railway got its Act on 2nd May 1825.1 This remarkable standard gauge line was designed by Josias Jessop, of Butterley Hall, to connect the Cromford Canal with the Peak Forest Canal at Whaley Bridge, reaching a summit of 1,266 feet at Ladmanlow. This was to be achieved by a number of inclined planes with gradients of 1 in 8 and 1 in o, worked by stationary engines, the intervening sections being operated by horses. In the same year, on 27th September, the Stockton & Darlington Railway, the first public railway in the world to introduce steam locomotives, was opened. Farther north, the Monkland & Kirkintilloch Railway, having obtained powers the previous year to work its traffic by locomotives, was under construction.

These developments, and the publication, also in 1825, of the Treatise upon Railroads by Nicholas Wood, viewer of the Killingworth and other collieries near Newcastle-upon-Tyne, must have given much encouragement to those who were far-seeing enough to realize the advantages of railways over canals, which were sometimes hampered by drought in summer and by ice in winter. So far as Manchester and Sheffield were concerned, they induced Henry Sanderson, a land surveyor, to come forward as a champion for railway communication, first partially and later throughout, between these two important centres of industry.2 To him, as much as to anyone else, must be given the credit of being one of the progenitors of the railway that became the nucleus of the Great Central. And to him must be given full recognition for the courage which, in a few years, he was to exhibit by daring to question publicly the words of the illustrious George Stephenson.

From Porto Bello, Sheffield, in April 1826, Sanderson issued his 92-page pamphlet entitled 'Considerations on the proposed communication by a navigable canal between the town of Sheffield and the Peak Forest Canal; with remarks and calculations tending to prove the superiority of an edgerailway for passing over a mountainous district, and a comparative account of the several practicable lines which have hitherto been pointed out'.3 This monumental description, typical of the times, was followed by a compre-

¹ Opened in 1832 (Railway Magazine, Vol. 75, page 353).

² Between the years 1780 and 1824 the population of Manchester increased from 22,000 to 160,000, and that of Sheffield from about 12,000 to over 63,000.

³ Printed by G. Ridge of 3 King Street, Sheffield (Derby Public Library).

hensive review of the previous canal schemes and of the operation of railways by inclined planes, by horses, and by locomotives.

His proposal for a railway is given in his own words:

'The line which I have suggested... commences at the Sheffield Canal-basin and passes along the east bank of the Sheaf. After skirting the south-east quarter of the town it goes a short distance up the Porter valley; then climbs up on the high ground above Nether Green, which may be accomplished by two steam-engine inclined planes, and proceeds along the ridge to Soughley Ings; thence, crossing the Wyming Brook, it ascends that side which inclines towards the Rivelin, with an easy rise, till it arrives at the division of the counties near its intersection with the Sheffield and Glossop Turnpike Road. This point is the higher of the two summits which must necessarily be crossed by the proposed railway.

'After entering Derbyshire the line begins to descend; and two more steam-engine planes must be made use of, to carry it down to the level of a high bridge which would

be required over the River Derwent near Ding Bank.

'Having crossed the Derwent below its junction with the Ashop, the line proceeds along the south side of the latter river to Grimber Carr; where a tunnel of half-a-mile in length may be readily opened into Edale, near the farm house called Fearny Lea. It then ascends the vale of Edale to the foot of Cowburn Ridge, above Barber Booth; and must be carried through this ridge by another tunnel of one mile and three-quarters in length, which will form the second summit.

'Between the west end of the proposed tunnel under Cowburn Ridge and the Peak Forest Railway¹ at Chapel-Milton, a fifth steam-engine plane will be required to

reduce the inclination within proper bounds.

'Thus there must necessarily be in this line, five steam-engine planes, having a total rise and fall of 1,050 feet perpendicular, and two tunnels, together $2\frac{1}{4}$ miles in length; in order to avoid, in those parts of the line whereon locomotive power would be used, a greater inclination than 1 in 84. This inclination is the same as that of the Peak Forest Railway between Chapel-Milton and Bugsworth; and . . . it is not too steep for the advantageous use of either horses or locomotive engines.'

The lengths and inclinations of the proposed line were then indicated as follows:

Miles	Furlongs	Gradient
I	$6\frac{1}{2}$	ı in 9
ΙΙ	5	1 in 84
I .	$6\frac{1}{2}$	1 in 100
2	5	1 in 115
I	$4\frac{1}{2}$	1 in 412
2	4	level

making a railway from Sheffield Canal Basin to the Peak Forest Railway at Chapel Milton 21 miles $7\frac{1}{2}$ furlongs in length.

Taking the then average cost of double track railways at nearly £4,000 a mile, and adding the cost of the tunnels and a branch to the Castleton Road, near Brough, Sanderson estimated that his line could be built for £150,000. This, he was careful to explain, did not include the expenditure on fixed engines and machinery called for by the inclined planes which, he said, 'being a part of the motive power, should be included along with the railroad

¹ See page 116.

THE PENNINE BARRIER



Hope Dale from the Winnats, drawn by F. C. Chantrey, R.A. (from *Peak Scenery 1818–1823*, by Ebenezer Rhodes).



Hathersage, drawn by T. C. Hofland (from *Peak Scenery 1818–1823*, by Ebenezer Rhodes).

waggons and locomotive-engines in the estimate of the expense of carriage; which ought to be considered separately from that of forming the line, as it is similar to the expense of providing boats and horses for a canal'.

In his conclusions Sanderson observed that if his line were continued to the Cromford & High Peak Railway at Whaley Bridge and 'if both were formed

on the same plan, carriages might pass from one line to the other'.

Sanderson's pamphlet was derided alike by admirers of water transport and by canal interests. The sensitivity of the latter was not surprising when it is remembered that in those days canal proprietors were enriching themselves to such an extent that dividends of 50% were not unusual. But the Act incorporating the Liverpool & Manchester Railway, which was passed in the same year Sanderson's scheme was propounded, on 5th May 1826, and the Rainhill trials of October 1829, immortalized by the success of the Rocket, which was entered by George and Robert Stephenson and Henry Booth, marked the beginning of the end of the canal supremacy and established the ascendancy of the locomotive, the fate of which had until then been hanging in the balance.

Thomas Bishop who, as mentioned earlier, had proposed a canal linking the Sheffield and Peak Forest undertakings via Castleton, now converted his scheme into a railway project which attracted some attention from Sheffield merchants. Due to the exertions of Liverpool capitalists, however, the scheme was extended to meet the eastern extremity of the nearly completed Liverpool & Manchester Railway and at their instigation a private discussion took place in the Town Hall at Sheffield in May 1830. Sanderson attended this meeting and gave a rough sketch of several possible routes. But all that was achieved was the formation of a deputation to confer with the Liverpool group from whom further guidance and support was to be sought.

Shortly afterwards another meeting was held in the Cutler's Hall, Sheffield. This time more progress was made. The capital was fixed at £600,000, one-third of the £100 shares being allotted to Sheffield and the remainder to Liverpool and Manchester. George and Robert Stephenson were appointed the Engineers, and Watson and Byrom, of Liverpool, the Solicitors. Henry Sanderson was selected to take the levels and prepare the Parliamentary Sections, but did not take up his appointment until the middle of September by which time George Stephenson had made some use of the services of Thomas Bishop. This clearly irritated Sanderson and was probably the beginning of his differences with Stephenson.

On 26th August 1830 the prospectus of the Sheffield & Manchester Railway² was issued from Liverpool by the Chairman of the Provisional Committee, Nicholas Robinson. Three deputy chairmen were named, Philip Law, the Master Cutler of Sheffield, John Kennedy of Manchester

¹ Secretary & Treasurer of the Liverpool & Manchester Railway and originator of the screw coupling.

² Printed by Wales & Baines of Liverpool (Derby Public Library).

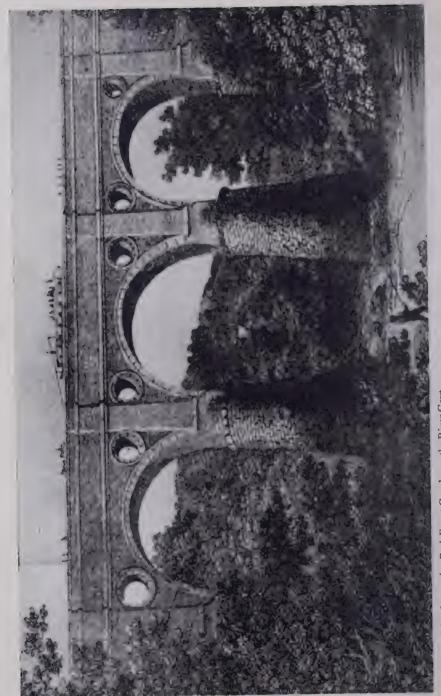
and Charles Tayleur of Liverpool. The remaining Committee members were E. Barker, Jos. Read, John Rodgers, Benjamin Sayle, John Sanderson, John Shirley and William Vickers of Sheffield, A. Dugdale, Jos. C. Dyer, W. H. Fairbairn, H. Houldsworth, Junr., and James Lillie of Manchester, and T. B. Barclay, W. Brown, E. Cropper, Samuel Hope, Thomas Jevons, S. Perceval, William Rathbone and E. Roscoe of Liverpool. The Treasurer was Thomas Jevons and the bankers were S. Hope & Co of Liverpool. The prospectus was illustrated by a map similar to that on page 10.

Preparatory to his drawing the Parliamentary Section, Sanderson had been called upon only to take the levels for the eastern side of the summit, and had found a discrepancy between his and those recorded by Stephenson's assistant, Gillespie, on the western side. He therefore extended his observations to the vale of the Goyt, and to the surface of the Peak Forest Canal, to discover that there was an error of ten feet on the part of Gillespie. Sanderson's section for this part of the line was then adopted, but his apprehensions over the route proposed were so great that he was impelled to give expression to them in another pamphlet1 which, dated 25th January 1831, was written at Pye Bank, Sheffield. It contained a full description of Stephenson's intended line 'as it is laid down on the plan and section deposited in the office of the Clerk of the Peace' and he observed that 'contrary to the former practice with regard to Canals, no report of the engineer on this line has yet been presented for public inspection. The thing appears to be kept as much as possible in the dark; but for what reason I cannot pretend to say - I can only surmise. Surely the Directors are not desirous of avoiding public discussion on the merits of their project; nor their engineer afraid of encountering such humble critics as myself'.

Sanderson was concerned at the amount of tunnelling $-6\frac{1}{2}$ miles – and the inclined planes proposed by Stephenson on a route which involved a mean inclination of 1 in 99 on the western side of the summit and of 1 in 78 on the eastern side. He came out in favour of a line by way of Penistone, Woodhead, Glossop Dale and Ludworth to Stockport and Manchester which, with two miles less tunnelling and with mean inclinations of 1 in 135 and 1 in 100 to attain the summit level, could be wholly worked by locomotives. He suggested that the application to Parliament should be deferred until the next Session so as to give time to consider the subject and find a better route. The validity of Sanderson's arguments was to be borne out by subsequent events.

The writer of a lengthy letter published in the Sheffield Courant & Advertiser of 11th February 1831, who signed himself 'L.R.', was amongst those who supported Sanderson's views. This correspondent strongly attacked the gradients, the inclined planes, the numerous bridges and the length of tunnels in a route of little over 43 miles which, he presumed, 'must be intended for merchandise only, for no man in his senses would ever venture in a carriage on such a road; the breaking of a chain or a rope would be inevitable destruction'. He asserted that a line via Hölmesfield, Calver,

¹ Printed by Platt & Todd, Courant Office, Haymarket, Sheffield (Derby Public Library).



Aqueduct at Marple carrying Peak Forest Canal over the River Goyt.

Middleton Dale and Peak Forest, passing close upon the Derbyshire coalfield and penetrating the best limestone districts in the country, provided an easier and more profitable route 'which it would be next to madness for the

proprietors of the projected Railway not to avail themselves of'.

Despite these misgivings, the Provisional Committee was not deterred. Nicholas Robinson's case in support of the Sheffield & Manchester Railway Bill, dated 14th February 1831, estimated that the canal and road journey times between Sheffield and Manchester, mentioned at the beginning of this chapter, would be reduced to four hours by rail; between Sheffield and Liverpool it was claimed that the eleven days taken by canal and three days by horse and cart would be cut to six hours by rail. Goods transport charges would come down by amounts ranging from 8s to 14s per ton. The application was proceeded with and overcoming the determined opposition of the Trustees of the Duke of Bridgewater which, contrary to the usual custom, was continued in the House of Lords, the Act of Incorporation received the Royal Assent on 23rd August 1831 at a cost of £11,393 14s 11d. The capital was fixed at £530,000 with borrowing powers up to £176,000.

For the benefit of the subscribers the Provisional Committee now had printed and circulated George Stephenson's report on the practicability of making the line and the mode and cost of working it. And from this rare and important historic document¹, which was dated 20th September 1831 and supported by comprehensive estimates of income, it is possible to form a judgement of the virtues or otherwise of Stephenson's proposals, for which

reason his own words are quoted extensively.

George Stephenson's route for the Sheffield & Manchester Railway started from the Liverpool & Manchester Railway on the west side of Water Street, west of Manchester, without bridging the river Irwell. After crossing over Water Street and the Duke of Bridgewater's Canal, and below the Chester Road and York Street (by means of a short tunnel), it proceeded on a rising gradient of 1 in 792 for the 7 miles to Stockport. This section contained 'a few cheap bridges' and a short tunnel, about \(\frac{1}{4} \) mile long, at Long Row. From Stockport, 'after crossing the rivers Tame and Mersey by bridges of no great magnitude', the line continued up the valley of the Goyt for a distance of about 11 miles to the vicinity of Whaley Bridge, with an inclination varying from 1 in 307 to 1 in 119. On this section 'there will be several short tunnels, none of them exceeding a few hundred yards in length, and the river Goyt will in some situations be passed over by bridges, and in others the course of the river will be diverted'. From Whaley Bridge the line proceeded for a distance of 3½ miles to Corn Heys (about a mile beyond Chapel Milton) on a rising gradient of 1 in 81, which Stephenson stated he hoped to be able to reduce by a deviation within the prescribed limit.

The ridge of hills called Rushop Edge, which was the summit level of the whole route, now presented itself and Stephenson proposed to overcome the

¹ Printed by Wales & Baines, Castle Street, Liverpool, and formerly in the collection of the late Mr Kenneth Brown.



George Stephenson's route for the Shef-field & Manchester Railway, drawn by H. Austin, Surveyor, Liverpool, in September 1830 and engraved by T. Smith of Lord Street, Liverpool.

western face by two inclined planes, the first being 1 mile rising at 1 in 18 and the second, in tunnel, of $\frac{3}{4}$ mile rising at 1 in 32. At the top of the second incline there followed a level stretch of over $1\frac{1}{4}$ miles, at the end of which the line descended into the Hope Valley by two more inclined planes, the first of nearly $1\frac{1}{4}$ miles in tunnel falling at 1 in 18 and the second of nearly $\frac{3}{4}$ mile on the same inclination.

Having got this far, Stephenson now paused to answer those who regarded the inclined planes as a serious impediment and a source of heavy expense to the undertaking. 'The eastern side of Rushop Edge,' he said, 'is composed of a limestone of excellent quality, which lies in an inexhaustible store, at a most convenient elevation above the summit level of the Railway. That the demand for this limestone (than which it is agreed, on all hands, none better can be procured), both at Sheffield . . . and more especially at Manchester and Liverpool . . . will be very great, there is no doubt; and I think it is a little less certain, that the weight of lime descending in both directions will at all times far exceed the weight of general merchandise and passengers ascending. I propose, therefore, that the limestone shall be employed, while descending, to draw up the lighter ascending trains.

'The manner in which this will be effected is as follows: First, with respect to merchandise. As soon as a train arrives at the foot of the first inclined plane on the western side of the ridge, it is attached to one end of a rope, the other end of which is attached to a train of descending limestone waggons, the number of which may be regulated according to the number of carriages that have to ascend; and in this way any reasonable rate of speed may be obtained. Upon reaching the top of the first inclined plane, the ascending train is attached to the end of a second rope, the other end of which, as in the first plane, is fastened to a train of limestone waggons. As I have supposed that only a single line is laid on this inclined plane (it being a tunnel) it will be necessary that the two trains should pass each other when half-way through. This may be effected without any difficulty or danger, by causing the single line to diverge for a short distance in the centre into two lines, one of which would be taken by the ascending, the other by the descending train.'

Stephenson observed that this method of working was not only perfectly practicable and unobjectionable but was likewise used in many existing inclined planes and he contended that it was equally applicable to the conveyance of passengers. 'But since it is necessary to guard against the possibility of accident where passengers are to be conveyed', he continued, 'and as on the inclined plane (the last one spoken of) there might be some danger, in case of the breakage of the rope, of one train coming into contact with another, I propose that the carriages should be raised up the second inclined plane or tunnel by a stationary engine, which will work an endless rope laid through the tunnel, and in no way connected with the other rope or with other machinery, so that the risk of accident will be as slight as it would be were the line level. It is evident, that on the first or lower inclined plane there is no danger of the two trains coming in contact with each other, even

if the rope should break, as there are two distinct lines along the whole length.

To reassure subscribers who might still be feeling rather squeamish Stephenson added, 'To guard effectually against any chance of the carriages running amain, either whilst ascending or descending the inclined planes, I propose the adoption of a variety of precautions, which cannot fail to insure safety from accident. In the first place, each carriage should be provided with a brake of such power, that the necessary attendants alone would be able to stop the train, but which, at the same time, may be worked so simply, and be so placed, that any passenger may be able to handle it, and thus have his safety in his own hands. In addition to this, the last carriage in each ascending train would have a scotch, similar to that which I have applied with complete success in the Liverpool tunnel. This scotch is attached by chains to the last carriage, and slides behind it upon the rails. If the rope should break, the carriages will roll back upon this scotch and be immediately stopped. In the descending trains, the scotch will hang in front of the first carriage, and being fastened to the rope by which the train is let down the incline, the moment the rope breaks the scotch falls down upon the rails in front of the carriages, and effectually checks their motion.'

From the bottom of the lower inclined plane on the eastern side of Rushop Edge, the line continued to descend, on an inclination of 1 in 177, for $3\frac{1}{2}$ miles and then proceeded on the level for a mile and a half. An ascent of 4 miles at 1 in 185 followed, containing a section of 3 miles in a tunnel, which, at the outset, it was suggested should be made for one line only. Through this tunnel Stephenson proposed that the trains should be drawn in both directions by ropes actuated by fixed engines, one at each end.

At the eastern portal of the tunnel, where double track was resumed, began a one mile inclined plane, descending at 1 in 32. This was to be worked as a self-acting plane, on which the lime descending towards Sheffield would raise the carriages that had to ascend. 'In case of any accidental deficiency in the quantity of descending lime,' observed Stephenson, 'the engines erected at the entrance of the tunnel will always have sufficient surplus power to be appropriated to this purpose. From the foot of this inclined plane there is a nearly uniform and moderate descent, for a distance of $5\frac{1}{2}$ miles, to Sheffield, of 1 in 98, over a country presenting a remarkably favourable and unbroken surface.'

In retrospect, and discounting the naïveté, in modern eyes, of some of the observations, notably the allusion to the passenger having his safety in his own hands, it seems incomprehensible that George Stephenson, who had fought so hard for the locomotive on the Liverpool & Manchester Railway and elsewhere, should be a party to the use of rope-operated inclines and self-acting planes for a trunk route such as the Sheffield & Manchester Railway. It is also difficult to understand why he should recommend fixed engines for the 3 miles in tunnel at 1 in 185 east of the summit and yet not consider them necessary for the $3\frac{1}{2}$ miles at 1 in 177 or the much steeper $5\frac{1}{2}$ miles at 1 in 98.

More difficult still is it to reconcile these things with his observations seven

years later, on 31st October 1838, at the dinner in Sheffield which followed the opening of the Sheffield & Rotherham Railway. He referred to 'the proposed line of railway from Sheffield to the west, in which they would have immense engineering difficulties in passing the mountains', and declared that he never was an advocate for unfavourable gradients. Surrounded as the town (Sheffield) is by hills, it was impossible to get out of the valley without going to Rotherham, he asserted, and he defied them to do it.²

Did he change his mind, as any man has a right to do and as he, above most of his contemporaries, had the courage to do? Or did he regard the Sheffield & Manchester as a limestone, other minerals and merchandise feeder line, as an over-sized Hetton Railway,³ rather than as a trunk route?

It is believed that the answer is not to be found in either of these questions. It is probably true to say that the immediate success of the Liverpool & Manchester Railway, which was formally opened on 15th September 1830, did as much to enhance George Stephenson's national reputation as it did to establish the locomotive, with the inevitable result that the demands for his services rose far beyond his capacity to meet them. By the time the Sheffield & Manchester Railway was being promoted he was already involved in several railway enterprises, a situation in which other engineers of eminence were soon finding themselves, so rapidly did railway development take place. It is, therefore, quite possible that Stephenson was prevailed upon by the promoters of the Sheffield & Manchester to agree to the inclusion of the persuasive legend 'Engineers: G. Stephenson & Son' on their prospectus and to allow the subsequent report to appear in his name. There was a somewhat similar precedent earlier. Sanderson observed, in his pamphlet of 25th January 1831, that when he was in the office of the Clerk of Peace, he examined the section of the intended Sheffield & Goole Railway, and was surprised to see the signature of Joseph Burke as the engineer instead of that of George Stephenson. This was not in accordance with the prospectus, in which 'G. Stephenson & Son' were named as engineers.

If this is what occurred, Stephenson laid himself open to severe criticism on ethical grounds, although his position would not have been so very different from those who nowadays accept presidencies of societies or membership of boards knowing full well that their public status, rather than their intrinsic qualifications, has been the criterion of their selection. If the supposition is not correct, then Stephenson's speech at the Sheffield & Rotherham function, after making allowance for its post-prandial nature, revealed a serious inconsistency in this great man's character which his biographers have overlooked.

As mentioned earlier, the report was supplemented by comprehensive estimates of income which, it would appear, had been compiled by Thomas Jevons. Treasurer of the line. These forecast a probable total gross annual

¹ An allusion to the then authorized Sheffield, Ashton-under-Lyne & Manchester Railway.

² Railway Times 10th November 1838.

³ A colliery line opened on 18th November 1822 and operated by locomotives, stationary engines and self-acting planes, of which he was the engineer.

revenue of £136,262, of which roundly £24,000 would be derived from passenger and parcels traffic, and an annual expenditure of £50,000.

The remaining features of interest in the report itself are the estimates of constructional cost, the most important of which are reproduced below:

					Double Line	Single Line
Tunnels .					€,129,336	£114,060
Excavations and	.Em	bankm	ents		102,334	81,868
Bridges and Mas	sonry	7 -			43,015	43,015
Rails, etc					69,620	42,600
Blocks and sleep	ers				28,690	17,600
Laying and ball	astin	g the w	ay		36,960	22,000
Fencing .					19,536	19,536
Land .	٠				38,880	38,880
Machinery .					10,000	10,000
Contingencies	٠	•		٠	48,139	35,000
		Totals		0	£526,510	£424,559

These estimates, it was stated, were based upon 'the rate of cost at which the Liverpool & Manchester Railway has been executed'. Later in the report they were broken down into four parts, covering the Manchester–Stockport, Stockport–Whaley Bridge, Whaley Bridge–Rushop Edge (east side) and Rushop Edge (east side)—Sheffield sections and the recommendation was made that the remunerative first named section should be undertaken initially, concurrently with the Hathersage tunnel on the fourth section. Engines of about 20 horse-power were envisaged for the line between Manchester and Stockport, and of 40 horse-power between the latter place and the foot of the first incline.

Close upon the heels of Stephenson's report and in time for consideration at the first meeting of the proprietors of the Sheffield & Manchester Railway since its incorporation, there followed a third pamphlet by Sanderson, dated 26th September 1831. Within the compass of sixteen pages, this energetic surveyor of Sheffield set out to help the shareholders see the wood from the trees by giving an abstract of the Act stripped of its legal jargon, a physical comparison of the Liverpool & Manchester with the Sheffield & Manchester, and a statement of the actual expenditure on the first alongside the probable expenditure of the second.

Because of the provisions and restrictions of the Act he considered 'that it is not likely the object in view will be accomplished without a considerable addition to the company's means, even if the very doubtful estimate made by Mr Stephenson may be relied upon'. No turnpike roads were to be crossed on the level; screens high enough to conceal the engines and other machinery passing along the line were to be erected and maintained by the company at any place where the railway came within 100 yards of the Sheffield and Chapel-en-le-Frith Turnpike Road; the combined tare weight and load of a

¹ Printed by J. C. Platt, Courant Office, 6 Haymarket, Sheffield (Derby Public Library).

four-wheeled carriage was not to exceed four tons, nor that of a six-wheeled carriage exceed six tons.

Most damaging were those parts of the Act which laid down that £100,000 to be applied in making the first twenty miles (or some part thereof) out of Manchester (the most profitable section of all), was to be matched by a like sum on the first twenty miles (or some part thereof) out of Sheffield; that both sums were to be expended within three years of the passing of the Act; that if the expenditure at the Sheffield end had not been incurred at the expiration of the three years, the company were not to receive any rates or tolls, after such expiration, until the sum of £100,000 had been spent; and that no dividends were to be paid until the line had been completed and opened throughout for traffic.

The principal features of the physical comparison Sanderson made between the Liverpool & Manchester and Sheffield & Manchester Railways are set out below:

					$L\mathscr{C}M$	$S \mathcal{C} M$
Length of line .					31 miles	43 miles
,, ,, tunnel						11,600 yards
Number of river brid						27
,, ,, ,, dive						9
Fixed engines for inc					80 h.p.	350 h.p.
Length of inclined pl					1 ½ miles	5 miles
Mean inclination of	locomotive	parts	of lin	е.	nearly level	1 in 182

In making a comparison of constructional costs Sanderson took the heads of actual expenditure incurred up to the month of June 1830 given him by Henry Booth, Secretary & Treasurer of the Liverpool & Manchester. These totalled £825,627 and, on the same scale, it was shown that the probable cost of the Sheffield & Manchester, under identical heads, would be £970,010.

The first general assembly of the proprietors of the Sheffield & Manchester Railway was held at the York Hotel, Manchester, on 20th October 1831, Nicholas Robinson being in the chair. In submitting their report, the Provisional Committee made two interesting observations. The first was to the effect that since the printing of his report, Stephenson had stated that it would be practicable to do away with the most objectionable part of the inclined planes at Rushop Edge, reducing the summit level by about 300 feet and the inclined planes from four to two, with inclinations of 1 in 36 instead of 1 in 18. The other, referring to the deterrent effect which it had been said the long tunnels would have upon passenger traffic, made the suggestion that for travellers to and from Sheffield the second class fares should be set at half the coach fares, for, it was asserted, 'This saving will, to a certainty, induce that class of passengers to travel by the railway, notwithstanding any repugnance they may at first have to passing through the tunnels. The outside passengers and the parcels being thus secured to the railway, and nothing but the chance of a few inside passengers left to support the old conveyances, it is obvious that the latter cannot be maintained on the road,'

Little was achieved at the meeting. In a mood of indecision, not surprising under the circumstances, the majority of those present felt that it was inexpedient to proceed with the undertaking until after a special general meeting which it was agreed should be held in Manchester six months thence. Meantime the Provisional Committee, strengthened by six more subscribers, were 'to inquire into the pecuniary prospects and practicability of the undertaking'.

No record appears to have survived either of the Provisional Committee's further activities or of the long arguments which must have gone on behind the scenes. But the indefatigable Sanderson got busy again. His fourth and final pamphlet, written at 7 Beet Street, Sheffield, and dated 28th May 1833,¹ appeared in time for the adjourned general meeting of shareholders arranged to take place at the York Hotel, Manchester, on 5th June of that year. This meeting had been called specifically to decide whether to proceed with the Sheffield & Manchester, to adopt a new line, or to abandon the project altogether.

In Sanderson's pamphlet now before the shareholders, suggested deviations were reviewed and Stephenson's route via Rushop Edge was subjected to a critical analysis. Sanderson did not pull his punches. 'Now, Mr Stephenson has, unfortunately for his own reputation and the company's success, given a decided opinion in favour of the Sheaf Valley, as being the very best direction in which the railway can be laid down,' he said. 'At the same time, he positively decided against the Dun valley on the ground of its being too crooked. I dare say that gentleman made up his mind too hastily, and may now think so himself; yet he will naturally feel averse to the changing of his opinion – such a step would imply a sort of fallibility of judgment which no civil engineer ever yet admitted in respect of his own acts and deeds.'Again, 'But when the engineer of the wonderful Liverpool & Manchester Railway, who has had the good fortune to be suffered to spend a million of money thereon, when a man possessed of such privileges writes nonsense, or gets anyone else to write it for him, it is received with all the good faith imaginable!'

Sanderson was now quite convinced that the route out of Sheffield should be along the Dun valley to Deepcar, thence 'by the vale of the Midhope by Langsett and Swinden', and surmount the summit of the Pennine ridge at Saltersbrook. To save expense, there could be an inclined plane each side of the summit, worked by fixed engines, and each plane would contain a short tunnel, the total length of the two planes being $2\frac{1}{2}$ miles. They could, however, be eradicated altogether by the driving of a tunnel two miles in length. From the western side of the summit the line would proceed to Manchester via Hadfield, Mottram, Godley and Stockport.

On the subject of tunnels Sanderson was particularly destructive in his comments on Stephenson's calculations. 'Mr Stephenson at first estimated the Hathersage tunnel at £15 per yard for a single line, yet afterwards, it

¹ Printed by A. Whitaker & Co of 13 Fargate, Sheffield, and formerly in the collection of the late Mr Kenneth Brown.

appears, reduced it to £10.... Let us now make a simple calculation by comparison with any existing work, of equal or nearly equal magnitude. We have no instance before us of so long a tunnel through similar strata. That which comes the nearest in length is the Huddersfield Canal tunnel of two miles and three-quarters. It required the long term of seventeen years, and the sum of £130,000 for its completion. Mr Stephenson's estimate of the Hathersage tunnel is only £55,000 to be completed in one-fourth of the time! Now, after adding one-eighth for the difference of length, if we allow that one-third of the cost of the Huddersfield Canal tunnel was thrown away owing to the ignorance of the Engineer as to the best mode of working it, there still remains £97,000 for a reasonable estimate at the present day, which is at the rate of £18 per yard, or thereabouts – the very price of the Liverpool tunnel. But the latter, although of larger dimensions, ought to have been done at a less price, yard for yard, because it is only half as long, and almost close to the surface.'

With this and other similar comparisons unfavourable to Stephenson's route before the shareholders, the result of the meeting on 5th June 1833 was a foregone conclusion. It was agreed to abandon the project altogether, and in recording the decision in its issue of 20th June, the *Derby Reporter* mentioned that the balance of the unexpended money subscribed had been returned to the shareholders.

So died the Sheffield & Manchester Railway, hampered by the forbidding Pennine ridge, which any line having pretensions to directness must cross, hamstrung by conditions in its Act, and finally strangled by the ropes of its inclines.



Seal of Sheffield & Manchester Railway (twice actual size).

The Sheffield, Ashton-under-Lyne & Manchester Railway is Formed

The outstanding success of the Liverpool & Manchester Railway, which ever since its opening had been taking receipts vastly in excess of the estimates of its promoters, coupled with the development of other railways, were more than sufficient to keep alive the desire of Manchester and Sheffield people for a line connecting the two communities. By the end of 1835 the British railway system embraced 337¾ miles of line completed and opened for traffic, represented by forty-one different companies, with a further 970 miles authorized for construction, these figures excluding the early tramroads and other lines worked by horses.¹ The experimental period had passed, and the locomotive-operated railway was now generally recognized as superior to any other form of land transport.

Another survey for a line between Manchester and Sheffield was undertaken under the supervision of Charles Vignoles, a leading civil engineer, sponsored by groups of influential men from Sheffield, Manchester, Ashton-under-Lyne and Stalybridge, who, at meetings at the Cutler's Hall, Sheffield, on 4th January 1836, at the York Hotel, Manchester, the following day, and at the Eagle Inn, Stalybridge, on 19th February, commonly resolved to build a line from Manchester to Sheffield with branches to Stalybridge and to Glossop, the capital to be £800,000 in shares of £100 each. The bulk of the Provisional Committee was then set up and was finally constituted after further meetings at the Palace Inn, Manchester, and Cutler's Hall, Sheffield, on 7th and 26th May respectively.

The prospectus issued (the first page of which is reproduced opposite) showed that the Provisional Committee, headed by Lord Wharncliffe (fresh from his championship of the Great Western Railway's Bill in the House of Lords), consisted of fifty-six members including Michael Ellison, John Rodgers and John Sanderson, who had been subscribers to the abortive Sheffield & Manchester Railway. In it was stated that the route surveyed by Vignoles, who was named the engineer of the undertaking, was practicable for locomotives, without the use of stationary power, and contained only 2 miles of tunnelling at the summit where the Pennines were to be pierced. The actual route was then described. 'It is intended that the station at Manchester shall be in or near Store-Street, and from thence the Railway will proceed by Gorton, Ashton-under-Lyne (with a very short branch to Staley-

¹ Early British Railways 1801-1844 by H. G. Lewin (1925).

SHEFFIELD, ASHTON-UNDER-LYNE, AND MANCHESTER

RAILWAY.

PROPOSED CAPITAL, £800,000, in 8,000 SHARES, of £100 EACH

Brobigional Committee.

SHEFFIELD.

FHE RIGHT HONOURABLE LOND WHARNOLIFFE.

JOHN SPRNEER, EM, MARTER COTLER, F. A. WARD, EM, TOWN COLLECTOR, HUGH PARKER, EM, MICHAEL BLLISON, EM, OFFLEY SHORE, EM, SAMUEL BALLEY, EM, JOHN RODGERS, EM,

HAR THOLONEW HOUNSFIELD, Esq.
SAMUEL HADFIELD, Esq.
HENRY DONCASTER, Esq.
THOMAS ELLIN, Esq.
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JOHN SANDERSON, For THOMAS LAYCOCK, Esq. JOHN HASLEHURST, Beq. Rev. STUART CORBETT, D. D. JOHN WARD, Esq. WILLIAM BUNGLEY, For VINCENT CORBETT, Esq. THOMAS BLAKE, Esq. JAMES ROBERTS, Esq.

MANCHESTER, ASHTON-UNDER-LYNE, AND STAYLEY-BRIDGE.

DAVID HARRISON, Eaq.
CHARLES HINDLEY, E.q., M.P.
GRORGE SIDEBOTTOM, Faq.
JOE SIDEBOTTOM, Eaq.
JOHN CHEETHAM, Faq.
JOHN CHEETHAM, Faq.
JOHN CHEETHAM, Faq.
JOHN LEES, Eaq.
JOHN LEES, Eaq.
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JOHN WINTERBOTTOM, Fsq.

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ALEX, WILDE THORNELEY Fsq.

OHN HOWARD, Esq.

CHARLES HOWARD, Esq.

BANKERS.

Memrs. PARKER, SHORE, AND CO., at Sheffield.

LIVERPOOL AND MANCHESTER DISTRICT BANKING COMPANY, at Manchester, Ashton-under-Lyne, and Stayles-Bridge

ENGINEER

CHARLES VIGNOLES, Esq., F. R. A. S., M. R. I. A. &c.

SOLICITORS.

Mr. THOMAS JAMES PARKER, Sheffield.

Mesors, HADFIELD and GRAVE, Manchester.

In bringing forward the long contemplated measure of a RAILWAY between SHEFFIELD and MANCHESTER, the Committee trust that the following brisf anyout: a of the Administer to be derived from earrying such a project into effect, will entitle it to the Support of the Public in general, and a specially of that portion of it whose Interests are more immediately connected with the Manufacturing, Agricultural, and Mineral Districts, through which the proposed Smilway is intended to be carried.

It is needless to expanse upon the Advantages to be derived from a Railway Communication, through Districts so populous, so rich, and so important in a manufacturing point of riew, as those on the projected Line; and from uniting Sheffield with the Port of Liverpool, where a very large proportion of the Manufactures of the former place are shipped, promoting and expediting as it will the intercourse between Manchester and Sheffield, and thereby secremanage the general rade and business of those places, and of the several towns and villague between and thus commends with them.

The present mode of Coureyance for Goods to and from Sheffleld and Manchester is by Waggon, and the time occupied in the transit is about forty hours; there is not the most remote probability of any competition by Water, and consequently the exclusive Carriage of Merchandise and Miserals between the two Termini, which can be taken by the Railway at two-thirds of the present cost and in one-tenth of the time, may be calculated upon as a prolific and unfailing source of revenue.

The intermediate Districts, including Glossop, Hyde, Mottram, Newton, Dukiofield, Ashton-under-Lyne, and Stayley-Bridge, will be, by this Railway, so united to Manchester, as to derive all the Advantages for conducting the Trade of that extensive and important Place, and at the same time, retain those peculiar to their several Localities.

In addition to these important Benefits, inexhaustible Supplies of Cosl, of the best quality, and of Pariours, Slate, Ashlar and other Stone, abounding use the Line, and for which there is an immense and increasing demand, will be opened to the Maoufactorers and Inhabitable, at a comparatively traffing cost. Indeed, from the Locality of the Miserals, it may be conclusively observed, that their distribution to the consumers will be effected almost entirely by descending Lines, and consequently, with additional facility and economy.

From a careful Survey, and Levels taken of the Country between Shefield and Manchester, under the Superintendence of Mr. Vianous, a Rasm for a Railway is obtained, practicable for Locomotive Engines, without the use of Stationary Power, and with only Two Miles of Tunnelling at the summit.

It is intended that the station at Manchester shall be in or near Store-street, and from thence the Railway will proceed by Gorton, Ashton-madwa-Lyne, (with a very short Branch to Stayley-Bridge, Hyde, Glossop, Woodbasd, Abrrieston, Penistone, and Wortley, to the Yown of Sheffield, from which a Justice a Junction is intended to be effected with one or other of the Lines, to be carried South of Sheffield, to Chesterfield, Derby, Northingham, Leicester, Birmingham, and Loodon, as well as to the North and Sast.

First page of prospectus of the Sheffield, Ashton-under-Lyne & Manchester Railway

bridge), Hyde, Glossop, Woodhead, Thurleston, Penistone and Wortley to the Town of Sheffield. . . . 'It was also declared that the new line 'would be available to a population as numerous (with perhaps one or two exceptions) as is connected by any Railway in the Kingdom', this being given as 456,892.

On 30th May the Provisional Committee got down to business in the house of a Mr Bower at Woodhead. It was agreed that twelve members from each end of the line should form a Directing Committee¹ under the permanent chairmanship of Lord Wharncliffe, with George Sidebottom as deputy chairman, that the capital of the undertaking be increased to £1 million, and that Vignoles and Joseph Locke, Engineer of the Grand Junction Railway (or such other engineer as the Committee may select if Locke's services could not be obtained) should each be asked to make a separate Parliamentary survey of the line and estimate of the expense; shortly afterwards the Grand Junction gave their consent to the use of Locke's services when he could be spared.

The idea of forming a junction with the Liverpool & Manchester Railway was deferred at a meeting of the Directing Committee at the Norfolk Arms, Glossop, on 1st July, when it was agreed to advertise for a Secretary, to whom 'a liberal salary will be given'. The two contenders for this post were Thomas Asline Ward of Sheffield and Charles Thomson of Manchester, and, by a ballot taken at the Committee's next meeting at the Ashopton Inn on 5th August, Ward was successful with ten votes cast in his favour against Thomson's eight. He was appointed for a year at £400 and was requested to proceed at once to the offices of the Liverpool & Manchester Railway to acquaint himself with that company's methods of transacting business. He was also instructed to keep a diary in which to record incidents relating to the affairs of the SA&M, a document which, unhappily, does not appear to have survived.

Vignoles and Locke presented their reports at a meeting of the Provisional Committee held at the Rose & Crown Inn at Penistone on 14th October. These were referred back for joint revision, in order that various differences of opinion between the two engineers could be reconciled with Lord Wharncliffe and George Sidebottom acting as peacemakers, and it was directed 'that a longer tunnel with a better gradient rather than a shorter tunnel with a worse gradient would be preferred'.

The final proposals of the two engineers appeared in a report of the Directing Committee dated 25th November 1836, in which the decision to increase the capital to £1 million was confirmed. Once again the projected route made use of the valleys of the Etherow and the Don, the principal differences between it and the one originally proposed by Vignoles being a longer Stalybridge branch, because of its divergence from the main line at Guide Bridge instead of at Ashton-under-Lyne, and the lengthening of the summit tunnel from 2 to 3 miles, Glossop being by-passed about three-quarters of a mile to the north. The line was to start from Store Street in Manchester and

¹ Increased later in the year by two more members.



ames Archibald Stuart Wortley, first Baron Whatucli¹¹ 1776. 845) and first Chairman of the SA&M. From a painting by Siriancis Grant reproduced in *The First Lady Winnesder*.

finish on a plot of vacant land to the east of the Cattle Market at Sheffield, a distance of $40\frac{3}{4}$ miles, the Stalybridge branch measuring $2\frac{1}{2}$ miles to its termination on the side of the Huddersfield Canal. Most important of all, by lengthening the tunnel under the Pennines to 3 miles and reducing the summit to 943 feet above sea-level, no gradient on the main line was to be steeper than 1 in 120, the ruling gradient on the branch being 1 in 100 for slightly over a quarter of a mile.

Vignoles stated that there would be no difficulty in obtaining locomotives 'which will be able to travel with four or five passenger carriages, averaging 18 or 20 passengers each, between the two great Towns in about two hours and a half'. He also considered that 'gross loads of sixty tons in one merchandise train may pass between Sheffield and Manchester in about three hours and a half, or not exceeding four hours'. In view of the existing prejudice against tunnels, heightened by the assertions of eminent doctors anent the dangers to which passengers travelling through them were subjected, care was taken to state that the trains need only be in the tunnel for ten minutes. And, by way of further encouragement, 'Lamps will, of course, be affixed to the carriages while passing through the Tunnel, as in the new Passenger Tunnel at Liverpool. Thus the time will scarcely be longer, and the accommodation quite as great, as at this (Liverpool) establishment, which is found to give the greatest public satisfaction, and is not attended with any inconvenience.'

Locke's report was in similar vein and it concluded with a remarkably accurate prophecy of the future development of the SA&M, upon which he was ultimately to succeed Vignoles as Engineer. He stated: '... looking upon your project as one of great mercantile importance, destined to form the direct thoroughfare between the East and West Seas, I have, in selecting the line, considered myself justified in encouraging some expenses which might otherwise have been avoided... the great, I may say greatest, unworked coalfield in England is contiguous to the line; and since this field must have an outlet to the Eastern Sea by the Humber, it amounts almost to a certainty that a communication between this Line and the Humber will at no distant period be made. This, in addition, to giving to Manchester the important advantage of a Railway communication with the Grain District of Lincolnshire, will afford the readiest mode for carrying its yarns and manufactures for exportation to the Eastern Coast.'

The Bill for the SA&M, along with 117 other railway bills, was deposited in November 1836, the year that has been described as the one in which the foundations of the British railway system were laid. It met with comparatively little opposition, and that encountered from the Manchester & Birmingham Railway (then in process of formation by an amalgamation of the Manchester & Cheshire Junction and Manchester South Union interests) eventually resulted in an agreement whereby the SA&M was granted the use of \(\frac{3}{4}\)-mile of the M&B line from Chancery Lane, Ardwick, into a proposed joint terminal at London Road, Manchester. And so with the surprisingly low preliminary and Parliamentary expenses of less than \(\xi\)18,000, the Act of Incorporation was secured on 5th May 1837.

Meantime, in readiness for the first general meeting of the shareholders after the incorporation of the company, Vignoles had compiled a report (dated 20th February 1837) dealing generally with the construction of the line and, in particular, of the summit tunnel at Woodhead. He stated that at least a year would be needed for the preparatory work, during which time the strata of the summit ridge could be thoroughly examined. To this end he recommended that the line of the tunnel should be traced at once and eleven shafts of 8 or 9 feet diameter be sunk at equal intervals across the ridge, averaging 150 yards in depth, the deepest being 200 yards; for this work he suggested gangs of miners be engaged. Next he recommended the driving of a horizontal driftway big enough for two men to work in at a time, this to take the line of the first tunnel, it being his view that only a single line tunnel should be constructed initially. This driftway would connect with the vertical shafts, which would be excavated on the centre line between the two single line tunnels eventually to be provided. In this way it was submitted that the practicability of achieving the task could be demonstrated within the twelve

At a meeting of the Provisional Committee, described as a 'Meeting of the Directors' at Glossop on 7th July, shortly after the accession of Queen Victoria, it was agreed that Lord Wharncliffe should be elected Chairman of the Board and Thomas Ellison Deputy Chairman. It was also agreed that the Directors at each end of the line should constitute separate Committees of Management, each to approve the other's decisions before they were implemented. The Board of the SA&M initially consisted of sixteen members, all but three being drawn from the Provisional Committee, and was ratified at the first general meeting of shareholders held at the Cutler's Hall, Sheffield, on 23rd October 1837. The Directors held their first formal meeting at Penistone on the 3rd of the following month; Lord Wharncliffe was confirmed as Chairman of the SA&M but William Sidebottom was elected the first Deputy Chairman instead of Thomas Ellison (see Appendix 1). Concurrently it was decided to appoint Thomas Asline Ward as Secretary & Clerk and G. B. Johnson as Bookkeeper.

The SA&M offices, which would have been of a temporary character, were located at 38 Fountain Street, Manchester. The Board resolved at their meeting at Penistone on 18th April 1838, when Charles Vignoles was unanimously appointed Engineer, that the headquarters of the SA&M for its Directors and Officers should be located in Manchester and that the services of an agent in London should be secured for facilitating the transfer of shares and for affording information about the company. Offices at 15 Piccadilly, Manchester, were duly rented at £80 per annum on a five years' agreement; and Moses A. Goldsmid was appointed London agent at £400 per annum for three years, with authority to spend up to £50 on the advertising of the company's reports. The decision to make Manchester the headquarters of

¹ Goldsmid's services were of short duration, for he resigned in February of the following year. There was, however, an SA&M London office at 20 Adam Street, Adelphi, until 1845

the line caused Ward, a Sheffield man, to resign and on 18th July Charles Thomson succeeded him as Secretary, at £300 a year. The Board decided, however, to keep a small office in Sheffield, mainly for bookkeeping purposes, and on 26th October authorized the renting of premises at £50 per annum in the Corn Exchange, the shop portion being sub-let and the residential portion being put at the disposal of the SA&M local bookkeeper, John Whiteley, who had been appointed in the previous August.

It was in the latter month, when the annual remuneration of the Board was fixed at £1,600 per annum, that the Directors were at last able to announce that the whole of the capital for the line had been subscribed. Nevertheless, they had found it necessary to make some modifications to the original scheme. The branch to Stalybridge was temporarily abandoned; and further economies were effected by the decision to terminate the railway on Nursery Street at Bridgehouses in Sheffield, instead of carrying it right through to the Cattle Market, and to construct the summit tunnel at Woodhead for one pair of rails only. These measures reduced the estimated cost o the line to £700,000.

Manchester Guardian, 11th August 1838.



Seal of the Macclesfield Canal which was purchased by the SA & M on 25th March 1846.

Construction begins and the First Trains are run

When the first contract for the line, for excavation and other labour, had been let to John Smith, Eckersley & Worswick, the Directors decided that the first ground should be broken with some ceremony. The place appropriately selected was near the centre of the railway, by the site of the western entrance of the Woodhead tunnel. Two marquees and a tent were put up for the accommodation and refreshment of the guests, and flags at intervals for miles along the valley marked the route of the railway.

The day chosen for the ceremony, 1st October 1838, was, rather unexpectedly for those parts, fine and clear. At 1.45 p.m. Lord Wharncliffe, accompanied by two of his sons, arrived by carriage from Wortley Hall, and was received with cheers from the assembled guests. With Vignoles, the Chairman of the SA&M descended the hill to the spot selected, and taking the spade, cut and drew out a sod and declared the ground duly broken. Then, in the words of a contemporary account in the Manchester Guardian: 'Mr Vignoles cut the next, followed by the Directors in turn. The ladies, whom the difficulty of descent prevented from forming part of the group, witnessed this ceremony from a neighbouring knoll, and appeared much amused with the awkward performance of some of the Directors and young men'. Whatever discomforture this may have caused, no doubt the excellent cold collation that was then partaken helped to mollify it.

Soon after this ceremony the SA&M decided to approach the Liverpool & Manchester Railway with plans for a physical connexion between the two companies, a project which its sponsors had had in mind since 1836. This was to be achieved by a line carried on a viaduct through Manchester from the site of its joint terminal with the Manchester & Birmingham Railway, between Travis Street and Store Street, to the L&M station in Liverpool Road; it was claimed to be a better proposition than an alternative connexion suggested by the Manchester & Leeds Railway, which was then under construction. Unfortunately the L&M considered that the time 'was not mature' for a such a project which, had it materialized, would have given Manchester greatly improved inter-station communication and, quite probably, brought the SA&M into the group of railways from which the London & North Western was eventually formed.

Two changes which took place before the close of 1838 should be recorded. William Smith and Thomas Laycock ceased to be Directors and were succeeded early in the following year by John Rodgers and Charles Appleby respectively. And Hadfield & Grave of Manchester who, together with



Coat of arms of the SA&M.

Thomas James Parker of Sheffield, were employed to look after the legal interests of the SA&M, resigned and were succeeded by Bagshaw & Stevenson of Manchester.

By the spring of 1839 the line had been staked out for the entire distance between Manchester and Sheffield and, generally speaking, the negotiations for the purchase of the necessary land were proceeding satisfactorily; from the crossing of the Etherow at Saltersbrook, to Broadbottom, a distance of 9\frac{1}{2} miles, the railway was to be laid on land 'advantageously purchased from the Duke of Norfolk'. The SA&M had also announced where it was contemplating the erection of intermediate stations, at seven places west of the summit tunnel and at five to the east of it. By mid-summer the Gamesley (No. 5) contract, extending from the site of the eastern end of the viaduct at Broadbottom, to Dinting Vale, had been let to Miller & Blackie of Liverpool, and progress had been made with the cottages for labourers and the roads for conveyance of materials at the tunnel. At the half-yearly meeting of the shareholders held at the Tontine Hotel, Sheffield, on 28th August, Vignoles, who on 24th of the previous month had been elevated from Engineer to Engineer-in-Chief at $f_{1.750}$ a year, gave the following comparison, in volume of earthwork per mile of line, between the SA&M and other railways:

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London & Birmingham

North Union

SA&M

London & Birmingham

London & Bi
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An important change for the better in the management of SA&M affairs now took place. Over a year previously, on 18th July 1838, the Board had agreed to meet monthly on the second Wednesday, alternately at Glossop and Penistone, and, as indicated in the preceding chapter, had set up two committees 'for general purposes' for each end of the line, these consisting of eight Directors apiece. This split in the direction of the company, occasioned principally, no doubt, by the physical barrier of the Pennines, must have inevitably led to difficulties for the committees, meeting weekly in Manchester and Sheffield, virtually became local Boards. This was apparent from the opening terms of the motion of George Sidebottom, seconded by Thomas Blake, which was put to the Board at its meeting at Glossop on 11th September 1839 and carried unanimously:

'That it is expedient for the better conducting of the affairs of the railway that the present principle of holding weekly meetings at Sheffield and Manchester be abolished and that the two Boards of Directors be united into one entire Board, to meet at Salters Brook [sic] on every alternate Wednesday at the hour of ten in the forenoon from the date of the present meeting, and that the money granted to the Directors as a remuneration for their services be apportioned in the following manner, viz., That thirty-two pounds be placed on the table by the Secretary at each meeting at Salters Brook, and that each Director present at Eleven o'clock be entitled to receive two pounds as his quota: the remainder of the money if any, to be divided pro rata amongst those who remain to the conclusion of the business, and that the same mode of remuneration be applied to adjourned or Special Meetings of the Board of Directors.'

What an incentive to attendance the vision of that glittering pile of golden sovereigns must have been to some! The resolution was not very unlike one which the Glasgow, Paisley, Kilmarnock & Avr Railway had passed only a week previously, when the Board of that company, in fixing the fees to be paid to Directors for their attendance, had instructed the Secretary 'to get a 10-minute sand-glass and turn it precisely at the hour of the meeting; members attending after it had run out to be paid only half'. 1 No doubt the lack of local transport facilities caused the SA&M to be less harsh with its Directors than the GPK&A! The resolution initiated by Sidebottom was reaffirmed by the Board on 25th March 1840 and was also embodied in a minute passed on 1st July of that year, when the frequency of the regular meetings was reduced to the first Wednesday of every month, the commencing time changed to 11.0 a.m. and a Committee of Management consisting of four Directors from each side of the summit tunnel, was set up to deal with the managerial matters which, prior to the opening of the first section of line, soon began to arise.

Financial affairs loomed large at that Board meeting of 11th September. An advice from the Manchester & Birmingham Railway that the plans for the joint terminal in Store Street were ready for examination was accompanied by a forecast that the probable cost of the land needed would be no less than £35,000. And 'arising out of unwarranted expenditure in newspaper

¹ The Glasgou & South Western Railway 1850-1923 Stephenson Locomotive Society 1950].

advertising' – for contracts for works – the Secretary, Charles Thomson, was strongly rebuked and the Bookkeeper, G. B. Johnson, dismissed on the spot with a month's salary. The latter was succeeded by John Whiteley, of the Sheffield office, who was appointed on 25th October at a salary of £120 per annum and instructed to make his home in Manchester. But in those days the Directors did not spare themselves either. Two months earlier one of the Board, James Rhodes, was told bluntly that he was to cease charging up a quarterly sum for the upkeep of a horse and gig used for travelling on company's business and, when occasions demanded, hire a horse instead.

Another financial difficulty had arisen through many shareholders defaulting on payments due for calls in arrear, leaving the SA&M no alternative but to sue them. To add to this the Board now found itself at loggerheads with its Engineer-in-Chief, Charles Vignoles, His appointment earlier in the year had not been made under auspicious circumstances, for his proposals as Engineer, for the establishment of the Engineering Department, had been rejected by the Directors who put forward their own. These, besides dealing with his salary, the appointment of a Resident Engineer and office accommodation, laid it down that the duty of the Engineer-in-Chief should be to advise generally on all engineering questions but that he would not have authority in that capacity to act independently of the Board. In accepting this condition Vignoles asked for a clear definition as to the extent of his responsibility and the amount of time which he was expected to devote to the SA&M. He was told that, as to time, the Directors required a monthly report of the state of works in operation, at least every alternative report being based on his personal inspection. As to his responsibility, this would not extend to the efficient execution of the works but only to matters of his contract of 18th April 1838, the faithful reporting of the state of works, and to any matters upon which he may advise the company.

Such looseness and ambiguity were bound to lead to misunderstandings. Vignoles, when attending the Board meeting at Saltersbrook on 9th October laid on the table the plans, sections, working drawings, estimates, specifications and tables of gradients for the line and reported that he had completed the whole of his engagements. His concluding remarks that his task had taken four months longer than promised, because of the extra work he had been called upon to perform, may well be a clue to one of the primary causes of his disagreement with the Directors. Another may be a resolution passed by the Directors on 6th November that no works in the Engineering Department be let without an order from the Board.

Lord Wharncliffe, the SA&M Chairman, now requested Nicholas Wood, who by this time had attained eminence as an authority on railways, to report generally on the undertaking and by the next Board meeting, on 4th December, had Vignoles' letter of resignation in his pocket. A suitable whitewashing resolution was passed accepting it and recording 'that Mr Vignoles be informed that while the Directors cannot omit the expression of their regret that circumstances should have existed to render his resignation advisable, they feel that they have no cause and therefore no intention to

cast the slightest imputation upon the professional character of that Gentleman in his retirement from the service of this Company'. This was followed by a resolution requesting one of the Directors, Michael Ellison, to write confidentially to Joseph Locke asking him if he would be prepared to take over as Engineer-in-Chief. By way of contrast, engineering problems for the day were concluded by authorizing Cooper, the Resident Engineer, to expend f_0 5 on oil and tallow for the tunnel works!

On 11th December Locke, replying to Ellison from Leeds, said, '... I should first ask what duties and how much time you consider would be required from the Engineer-in-Chief? It would give me great pleasure to aid you in your Enterprise if I could do so consistently with my present Engagements and the freedom in which I wish to hold my time as a professional man. But I fear that I could not do this (unless you had a superior person in the position of Resident Engineer, and particularly if all the Works are to be carried on simultaneously) so as to do justice to your Works, by giving such an amount of time as I have been in the habit of giving to other Companies. My advice is always at your service and my time to the extent of one or two months in the year is equally so, but beyond that I do not feel at liberty to promise. I will aid you in the selection of a proper person to take Charge of the Line whether you retain me or not, and I will advise you as to your Plans, etc., as a Consulting Engineer without being responsible for their execution. Should you prefer my taking that responsibility then I should require that the Resident Engineer be a competent person to entrust during the long absence I might find it necessary occasionally to make. Should you not carry on all the Works at once a less skilfull (sic) person with a smaller salary would suffice.

'I have now the Charge of two Railways about 20 miles long each, and to each of which I engage to devote about 6 weeks in the year. I appoint my Resident Engineer and am responsible for the Works. Yours being a longer line and with more difficult Works would require either more time from me, or a more able Resident Engineer, or what might be better, two Engineers to take Charge of the Works. For those Lines I make the Plans, Specifications and Contracts, and see the Works fairly under way and afterwards pay occasional visits.

'I think I have said enough to show you my views on the Subject and when you have determined what course you will follow, I should be glad to communicate with you as to the terms on which an engagement might be made. If you think that I am not, from my other occupations, able to meet the wishes of the Directors, please say so at once, and command my services in any way in which they can be available in aiding you to obtain proper persons for the Situations. . . .'

Locke attended the SA&M Board meeting in Manchester on 2nd January 1840 and was appointed Engineer-in-Chief from that day. It was agreed that his salary should be £750 a year initially, this to be increased by £250 when the works extended beyond the tunnel and the line to the west of it. He was given full responsibility for the execution of the works, the right to select the

Resident or Sub-Engineers, and was expected to devote up to two months

of his time during the year to SA&M matters.

Born at Attercliffe on 9th August 1805, where his father, William, was a colliery manager, Joseph Locke was educated at Barnsley Grammar School, which in later years was to enjoy his benefactions. He left at the early age of 14 to become a pupil of William Stobart, agent for the Duke of Norfolk at Pelaw Colliery in County Durham, with whom he stayed two years. Thence he returned to Barnsley to the employ of his father who had now become manager of Porter & Co's collieries in that area. The families of the Stephensons and the Lockes had long been intimate friends and, as a result of a visit by George Stephenson to William Locke in 1823, Joseph went to the locomotive workshops of Robert Stephenson & Company at Newcastle at the end of that year. And after two years' apprenticeship, he accepted Stephenson's offer of a three-year engagement at £100 per annum. So began Locke's real life work, which was to be ended on 18th September 1860 at the age of 55 years. 1

The SA&M was lucky to get Locke, then fresh from his achievements on the Grand Junction and London & Southampton Railways, during a period when some of the shareholders were going out of their way to spread alarm and despondency by exaggerating the engineering difficulties of the line. Other shareholders forgot that the time taken to raise the necessary capital after the Act had been obtained, their defaulting colleagues, and the upset with Vignoles had all contributed to slow progress. The half-yearly meeting at the Albion Hotel, Manchester, on 27th February must have been a difficult one for Lord Wharncliffe but he was able to report that Nicholas Wood, and also Locke, in the brief time he had been Engineer-in-Chief, had both produced highly satisfactory reports on the undertaking. He did not choose to lift the veil on the causes of Vignoles' departure and the shareholders had to be content with a statement to the effect that it was not

deemed prudent or desirable to enter into a detailed explanation.

On the same day Cornelius Randall replaced James Rhodes as a Director, and another member of the Board, Thomas Ellison, who had resigned owing to ill-health, was succeeded by David Waddington. John Turner was also

appointed a Director.

Under Locke's direction better progress was now achieved. The Ardwick (No. 1) contract was let to Buxton & Clarke at £47,268 and Denton & Sergeant were given the Newton (No. 2) contract at £41,950; work on both began in mid-May. The Hattersley (No. 3) contract was awarded to Thomas Brassey for the sum of £56,000 at the beginning of June, when Locke's recommendation that Alfred S. Jee should succeed Cooper as Resident Engineer from 1st July at a salary of £600 per annum was approved; at the same time Locke was authorized to appoint two Sub-Engineers at £200 a year each. Brassey was again successful in August when the portion of line

¹ Paper by R. W. Allott, M.A., F.R.S.A., to Sheffield Trades Historical Society, 22nd September 1953.



Joseph Locke (1805–1860), Engineer-in-Chief of the SA&M. From a mezzotint by Henry Cousins after a picture by Sir Francis Grant.

between the Hattersley and Gamesley contracts was let to him for a sum not to exceed £9,000.

By this time another upset on the SA&M had occurred but had been satisfactorily resolved. Lord Wharncliffe resigned from the Board at the end of June and John Parker, M.P. for the Borough of Sheffield, succeeded him as Chairman on 5th August by the unanimous wish of the Directors. No indications as to the reasons for this unexpected change appear to have survived. All that is known is that Wharncliffe's resignation was precipitated by a difference of opinion with the majority of the Directors 'upon a subject of great importance . . . a circumstance sincerely and deeply regretted by every Member of the Direction. The Directors have, however, the gratification to believe that notwithstanding this unfortunate occurrence, his Lordship still entertains those favourable sentiments towards this undertaking, which originally obtained for it his invaluable support'. So ran the report of the Board to the shareholders at the half-yearly meeting at the Cutler's Hall, Sheffield, on 31st August 1840. Who could then possibly foresee that the grandson of the first Chairman of the SA&M was to be the last Chairman of the MS&L and the first of the Great Central?

The year 1840 ended on a note of progress, although the whole country was now being unsettled by Chartist troubles. Over £168,000 had been expended on the undertaking. The first orders for rails and chairs had been placed, James Bagnall & Sons of West Bromwich getting a contract for 3,000 tons of rails at £9 per ton, and George Green of Oldham, Mather Tomlinson & Co of Liverpool, and Stanley Cryser of Dukinfield equally sharing in the supply of 600 tons of chairs at £6, £6 10s and £6 16s 6d per ton respectively. The contract (No. 4) for the Etherow viaduct had been let to Henry & Co of Chester for £25,000.¹ On 29th December some of the SA&M Directors met colleagues of the Manchester & Birmingham Railway, ratified their willingness, expressed earlier, to contribute £12,000 towards the purchase of the land for the joint terminal in Manchester and agreed to its construction by the M&B to the designs of Buck, that company's Engineer.

At the half-yearly meeting at the Albion Hotel, Manchester, on 17th February 1841 when John Chapman was elected a Director to succeed John Bennett, who had resigned, it was announced that the first section of the line should be ready for opening in September as far as the crossing of the Hyde and Mottram Turnpike Road at Godley. Nevertheless, some of the share-holders still bitterly criticized the rate of progress, and the completion, on 1st March of the Summit tunnel, near Littleborough, on the neighbouring Manchester & Leeds Railway increased their vehemence. By using this line to Normanton, the North Midland Railway from Normanton to Masborough, and thence by the Sheffield & Rotherham Railway, it now became possible to travel by rail from Manchester to Sheffield, albeit in an extremely roundabout manner. This route was referred to in the Sheffield & Rotherham Independent three years later, on 21st February 1844, when, under the ironical

¹ See page 34.

heading 'Brisk Travelling' it was stated 'The passengers last Sunday evening by the quarter to five train from Sheffield reached their destination (Manchester) in eight hours. The train arrived at Normanton at the usual time, but had to stop there for an hour and fifty-five minutes. It then proceeded to Manchester, but so many were the stoppages that it did not reach that town until half-past 12. Such are the inconveniences of this circuitous route'.

Early in 1841 the Committee of Management set up on 1st July of the previous year considered the locomotives and carriages which would be needed when the first section of line was opened. Locke's specification for the locomotives was sent to no fewer than a dozen builders, although it had been decided to start operations with only a modest stud of three tender engines. Three of the Committee visited Lancaster in April to inspect some carriages then ready for the Glasgow, Paisley & Greenock; there they encountered the Chairman and two Directors of the Lancaster & Preston, who 'cautioned them against falling into the same error which they and several other Companies had done of ordering too great a number of carriages which they afterwards found were not required'. This advice, which in the event proved unsound, no doubt accounts for the fact that the SA&M began with but 14 carriages.

Other matters dealt with by the Committee at this time were the ordering of 10 wagons, 1,000 sleepers (the Resident Engineer, Jee, being instructed to get stone blocks if cheaper), and the appointment of one John Hilton as police constable at £50 per annum; a further 21 individuals were 'sworn in' to assist him if required. This proved to be a wise precaution, for later in the year unrest amongst the English and Irish labourers on the works culminated in violent clashes between them in June and July. These disturbances, and rough weather conditions over a long period, seriously hampered progress.

On 14th April, at Ashopton, the Directors accepted a letter of resignation from Thomson, the Secretary, and at their next meeting, on 5th May at Glossop, selected John Platford from 14 applicants to succeed him. Thomson had simply stated that he wished to resign because he felt his services were 'not agreeable to the Directors', but it soon became evident that he was involved in some kind of irregularity, and David Waddington and one of the SA&M solicitors, Stevenson, were asked to carry out an investigation. As a result, the SA&M found itself liable for five claims totalling over £1,200 arising out of forgery of signatures by Thomson, who was apprehended and brought before the Manchester Borough Court. He admitted his guilt and was committed for trial at the next Liverpool Assizes. Sentenced for life, he appealed to John Parker, the Chairman, to use his influence at the Home Office to obtain a mitigation to a term of years, but the Board decided not to make any kind of intervention.

Henry & Co's contract for the Etherow viaduct had been subject to the conclusion of satisfactory negotiations with the lessees of the land on which

¹ Herapath's Railway & Commercial Journal 29th May 1841. Thomson's actual defalcation, after payment of one of his sureties to the SA&M, amounted to £779 115 10d.

the four stone piers of the structure were to rest. After protracted arguments over the siting of these the SA&M were faced with no alternative but to agree to a viaduct with fewer intermediate supporting piers and invite fresh tenders for the work. As a result, Smith & Hattersley, who submitted a lower estimate than Henry & Co., got the contract in August for £20,000. In the same month the Directors finally made up their minds about the intermediate stations to be provided between Manchester and Godley Toll Bar, and in September, decided to adopt Edmondson's printing machine and ticket system, this involving an initial outlay of £250, apart from the annual fees to the patentee.

The staffing of the line was based upon information obtained from the Sheffield & Rotherham and Manchester & Birmingham Railways, and on

13th October the Board laid down the following establishment:

```
Superintendent for the station at Manchester @ £,100 per annum
4 station check clerks
                                                    60 ,,
                                              (a)
         ,, clerk (at Fairfield)
                                              (a)
                                                    50
                                                    60 ,,
1 storekeeper
                                              (a)
r ticket printer
                                              (a),
                                                    50 ,,
16 day police
                                      @ 18/- to 20/- per week each
8 night police
                                      @ 18/- per week each
1 'ticket taker' (at Manchester)
                                      (a) 24/- ,,
                                                  ", each
                                      @ 24/-
4 guards
                                      (a) 24/- ,,
2 point men [sic]
                                                   22
3 enginemen
                                      @ 7/- ,, day
                                           5/-
3 stokers
                                      (a)
                                               53
                                                   99
2 labourers
                                      (a)
                                           3/6 ,,
2 carriage cleaners
                                           3/-
                                      (a),
                                                          23
         body maker
                                          5/6
                                      (a)
                                               33
```

The number of porters was not stated, but the rate to be paid was 21s per week, 3s higher than on some neighbouring lines. Apart from the Superintendent, the station staff at Manchester was, for the time being, to be provided by the Manchester & Birmingham for an all-in charge of £10 per week. It was left to the Committee of Management to appoint any further men needed, including two gatekeepers at 18s per week each for the level crossings at Turn Bridge Lane, Audenshaw, and Green Lane, Gorton. The guards, pointsmen, station staff and others employed for operating the line were all sworn as special constables for the counties of Chester and Lancaster.

Most of the staff appointed before the first section of railway was opened were named in the Board minutes, a practice which continued for some years. Lt. Walthall Gretton, R.N., was the first Superintendent at the Manchester terminal, and he eventually rose to head the Passenger Department when the SA&M made organizational changes at the beginning of 1846. Most famous of all the original staff was 'engine driver No. 1', Richard Peacock, who very soon was to assume control of the Locomotive Department and was destined to become a co-founder of the world-famous firm of locomotive builders, Beyer Peacock & Co Ltd.

On 8th November Locke submitted to the Directors a report upon the exact state of the whole undertaking which he had been asked to take in



Richard Peacock (1820–1899), Locomotive Superintendent of the SA&M.

[Photo: Beyer Peacock & Co. Ltd]

hand the previous August. In this he indicated that he did not expect the line to cost more than 10% above Vignoles' forecast, save as regards the latter's estimate for the construction of the Woodhead tunnel, namely nearly £106,000, which included contingencies; this would have to be raised to over £207,000. Work on the tunnel had been impeded by the need for pumping engines more powerful than those originally provided in order to cope with the large volumes of water encountered in the shafts.

The railway was now ready for opening as far as Godley Toll Bar, a distance of $8\frac{1}{4}$ miles, and the Directors decided to make an experimental trip over it on Thursday, 11th November, leaving Manchester at 10.0 a.m. This was duly accomplished without mishap by the Board, headed by the Chairman, John Parker, together with Locke and a numerous party of friends. And Sir F. Smith, the Inspector of Railways, having certified the line fit for opening, it was brought into public use on 17th November 1841 without ceremony or display, each shareholder having been sent a free ticket for that day.

As the joint station in Store Street was not yet ready, use was made of the temporary Manchester & Birmingham terminal in Travis Street. The first public train to run on the line left Godley at 8.0 a.m., and in the reverse direction the first train out of Manchester left at 8.47 a.m. The latter, according to a contemporary account in the *Manchester Guardian*, consisted of five carriages (one 1st class, two 2nd class and two 3rd class), hauled, of

course, by one of the three Kirtley locomotives with which the SA&M began operations. Fairfield, the first station out of Manchester, was reached at 8.57 a.m., Ashton & Hooley Hill (soon contracted to Ashton and later renamed Guide Bridge) at 9.03, Dukinfield (Dog Lane) at 9.07, Newton & Hyde at 9.20 and Godley Toll Bar at 9.25 a.m., whence an omnibus ran to Glossop in connexion with some of the trains. From Godley also there was Bradley's coach to Sheffield.

All of the stations were provided with wooden structures of a temporary nature (sheds, in fact, supplied by William Briscoe of Ashton-under-Lyne at £37 10s od each, but boasting clocks by Isaac Simmons at £3 13s 6d a time), and, shortly after opening, with two or three street type lamps. Every station was in the charge of a clerk whose duty it was to start each train with the 5 lb bell provided, after the guard had blown his whistle. At Newton & Hyde, where the locomotives and coaches had been put on the line four or five weeks before it was opened, were located an engine shed, a smithy for repair work and a locomotive water tank holding two days' supply, a Mr Mottram

providing the water for f_{10} per annum.

The railway was single throughout and the method of operation was to despatch a train from one of the terminals when a train from the opposite end of the line had arrived. Single track was adopted solely in the interests of economy, but it was soon found to aggravate delays when a breakdown occurred. Pending the construction of Store Street station, the SA&M and M&B trains shared the same pair of rails between Travis Street and Ardwick junction. Of the latter place the Manchester Guardian of 20th November 1841 said: 'Some caution will be requisite here to prevent two trains . . . coming into contact at this point. This, of course, may be done by arranging the times, or by keeping the rails separate, which is indeed to be the case when the line is completed to the new Manchester station, but at the present, the proper precaution seems to be to stand a watchman there to keep a look-out on both lines, and see that when a train is arriving on one line, there is no train arriving on the other, or if there be, to make the signal to one of them to slacken speed.'

Crude indeed were the earliest signalling arrangements. The policemen and pointsmen were given hand signal lamps showing red (for stop), green (for caution) and white (for all clear), and the platelayers red and green flags. But so far as fixed signals were concerned Jee had been requested by the Committee of Management on 30th October simply 'to make the necessary preparations at each of the intermediate stations for the fixing of the signal lamps' and 'to drive a stake at the above mentioned stations where the signal (flag) poles are to be fixed'. He was also asked 'to have the distance posts placed along the line immediately', these being measured from Store Street station.

Staff wages were paid fortnightly by the Secretary, and as early as 4th December, when two locomotive men were each fined 20s for neglect of

¹ Regulated, as from 12th December 1842, by the Manchester Infirmary clock.

duty, it was decided that the monies so collected were to be held by the Secretary 'to relieve the said persons during sickness'. In fact, the practice of fining negligent staff soon became firmly established. A driver and fireman had to pay f,2 and f,1 each (the best part of a week's wages) for failing to take proper care of their locomotive, thereby causing it to sustain considerable damage; another driver was fined 10s for allowing an unauthorized person to ride with him; a fireman was penalized a like sum 'for not having the steam up at the proper time'; and another of the staff had to pay 5s for not noticing an iron bar placed across the section of line under his inspection. Any servant asking for or accepting a gratuity faced instant dismissal.

On the other hand, the SA&M did not forget those of its staff who were injured on duty; one man, for instance, who broke his leg, was given f.10. Nor were the efforts of those who went out of their way to get business unrewarded. By a decision taken before the line was opened certain grades of the staff were to be paid for tickets sold through their efforts. The four guards, for example, who between them secured the sale of 816 tickets producing over £20 during the first year of operation, were each paid sums

ranging from 20s to 15s by way of incentive to further endeavour.

Staff uniforms were of dark green cloth with red edging, except those for the porters and pointsmen, who got suits of dark green velveteen with red cloth collars. In addition, the porters were provided with dark green caps with a red edge and leather band lettered 'Porter No.', together with arm plates similarly lettered. The SA&M had a liking for decorative headgear. There were police hats for the policemen, storekeeper and ticket collectors, the latter also being given double-breasted frock coats with red edging; the guards, engine drivers, firemen and pointsmen got glazed hats, those of the guards enjoying an additional touch of sartorial splendour with the title and arms of the SA&M painted on the front. Within the passage of twelve months, however, the Board ruled that 'enginemen, firemen and other servants belonging to the locomotive department' were to find their own clothing, hats and so forth.

The first rates and tolls levied by the SA&M are given in Appendix II. Parcels traffic was charged at 6d per package for the first 14 lbs, 9d for less than 28 lbs, 1s for less than 56 lbs and 1s 6d for less than 112 lbs, these rates including delivery within 11 miles of the destination station. Passenger fares worked out roughly at 4d, 3d and 2d per 11 miles for 1st, 2nd and 3rd class travel respectively, and a table of those from Manchester is given below:

	ist	2nd	3rd
To Fairfield	8d	6d	4d
" Ashton & Hooley Hill .	1/	9 <i>d</i>	6d
" Dukinfield (Dog Lane)	1/-	9 <i>d</i>	6 <i>d</i>
"Newton & Hyde	1/3	1/-	8d
Godlev Toll Bar	1/6	1/2	10d

Children under 9 years were charged the 2nd class fare for 1st class accommodation and the 3rd class fare for 2nd, but those travelling 3rd class were given no reduction. Passengers were allowed a free 60 lbs of accompanied



SA&M ivory free ticket.

luggage and charged 3d for each additional 20 lbs. Dogs went at 3d each, but were not permitted to accompany passengers. This embargo was relaxed by or before 13th August 1844 when new charges were announced, namely, 3d each up to 5 miles, 6d up to 10 miles and 9d up to 20 miles when accompanying passengers, and double these rates when in the company's charge.

Another prohibition laid on passengers was smoking either at stations or in the trains; persons so doing were liable to a fine of £2. This, of course, was the custom of the times, but there was an unusual regulation affecting travellers joining en route which was described in the following words: 'Passengers at the intermediate or road stations will only be booked conditionally, that is to say in case there shall be room in the train for which they shall be booked. And in case there shall not be room passengers booked for the longest distance will be allowed the preference and passengers booked for the same distance will have priority according to the order in which they are booked'.

Notwithstanding the severe handicap of single line operation and breakdowns by the locomotives, the initial section of the SA&M managed to convey 17,418 passengers during the first 17 days of operation. These produced receipts of £443 95 9d and the small sum of £6 75 5d came from parcels traffic. From this revenue, however, had to be deducted the comparatively large amount of £175 115 2d, which the Manchester & Birmingham Railway extorted as toll for the use of the short section of line from Ardwick junction into the Manchester terminal. Authority for levying the tolls, which were applied to all traffic of the SA&M, had been granted under the M&B's Act of Incorporation of 30th June 1837; it amounted to 2d for each passenger, but was reduced to $1\frac{1}{2}d$ and 1d respectively in the case of 2nd and 3rd class passengers at the end of 1846.

Nevertheless, the year ended with the Directors in a mood of restrained optimism. During 1841 there had, incidentally, been further changes within their ranks since Lord Wharncliffe's departure, but not because of any disagreement. David Waddington's resignation was accepted with reluctance and regret on 23rd July, as was also that received from George Sidebottom on 15th September. They were succeeded by Alexander Wylde Thorneley and James Perry respectively, the latter hailing from Dublin.

The SA&M escapes Absorption and reaches Sheffield

Despite defaulting shareholders, the incidence of an acute trade depression, and the continuance of Chartist agitations, the SA&M was pushed slowly eastwards during the ensuing three years and doubled throughout its length.

Soon after the line had been opened a passing loop was installed at Ashton & Hooley Hill, and in January 1842 Jee was ordered to double the line forthwith between Fairfield and Newton & Hyde, starting first with the section between Fairfield and Dukinfield (Dog Lane) stations. In June he was instructed to deal similarly with the remainder, and in October to lay the extension from Godley to Glossop as double track. On 10th December the line was opened to Broadbottom for a special trip by the Directors, and brought into public use the following day, when the station at Godley Toll Bar was closed. A fortnight afterwards, on Christmas Eve, Glossop (renamed Dinting when the branch to Glossop was opened) was reached. From this point a coach took travellers forward to the Angel or Commercial Hotels in Sheffield, bringing that town within five hours of Manchester.

There now ran six trains from Manchester to Glossop and four to Newton & Hyde on weekdays, all but one departing at an even hour; on Sundays there were four to Glossop. In the reverse direction there were seven from Glossop and three from Newton & Hyde to Manchester on weekdays, these departing at an even hour or at 45 minutes past the hour; and on Sundays there were four trains from Glossop. The SA&M was, in fact, one of the first companies to adopt the system of 'even hour' departures, having started the practice on 7th February 1842. All trains stopped at all stations, the journey from Glossop to Manchester being performed in 40 minutes, that in the opposite direction taking five minutes longer.

Store Street station in Manchester had been brought into use on 10th May 1842, but it was not until 2nd June of the following year that the SA&M took formal possession of their own booking and other offices there. Gorton station was opened shortly after Store Street, on 23rd May, and Ardwick in November. These developments successively called for alterations to the

¹ The later Godley Junction station was not opened until 1st February 1866, when the Godley-Woodley line was brought into use.

tares list and that applying from Manchester introduced on 28th December, is given below:

		1st	2nd	3rd
To Ardwick.		6d	4 <i>d</i>	2d
"Gorton .		8d	6d	4d
"Fairfield .		9d	6 <i>d</i>	$\hat{4}d$
"Ashton .		IOd	7 <i>d</i>	5d
" Dukinfield	1.	10d	8 <i>d</i>	6 <i>d</i>
"Newton &	Hyde	1/3	1/	9 <i>d</i>
", Broadbott	om .	1/9	1/3	1/-
"Glossop .		2/3	1/9	1/3

During 1842 an improvement in the signalling took place; in September the Manchester Directors examined a drawing submitted by Lowe & Bassano for an 'iron pillar signal lamp with disc' and decided to equip each of the first five stations out of Manchester with them. An order for similar signals at Broadbottom and Glossop stations was placed in November.

Plans for further expansion of the SA&M were made early in 1842. At a meeting of the Board, held appropriately at the Station Hotel, Normanton, on 9th February, it was decided to ask Locke to make a survey for a line (soon to be known as the Barnsley Junction Railway) from Oxspring to connect with the Derby-Leeds line of the North Midland at Royston. In the same month the Liverpool & Manchester was once again sounded on the subject of a 'southern junction line' to connect the two systems in Manchester. This time the approach was warmly welcomed, but over three years were yet to elapse before what became known as the Manchester South Junction & Altrincham Railway got its authorizing Act. By the middle of June Locke had been asked to prepare the necessary plans, estimates and specifications for tenders to be invited for the Dinting Vale viaduct and for the remainder of the line up to the western face of the summit tunnel; to set out the line from the eastern face into Sheffield; and to survey the route for the branch to Ashton-under-Lyne and Stalybridge which shortage of money had deferred. In September the tender of 631,600 submitted by Buxton & Clarke for the Dinting Vale viaduct (No. 6) contract was accepted and Miller & Blackie got the Longdendale (No. 7) contract for £,46,400.

Pending the completion of these schemes, the SA&M interested itself in other forms of transport to act as feeders. It already owned two horse omnibuses, these being worked on its behalf by a local operator, William Oates, between Godley Toll Bar and Glossop; two other buses operated in Manchester. In April 1842 the decision was taken to start a bus service between Guide Bridge, Ashton and Stalybridge, and later in that month Joshua Platt (who was then being paid £8 a week to provide and run a bus to Hyde) was appointed to superintend the SA&M fleet at a salary of £2 a week. At the same time his bus was acquired and four additional horses were bought for the service between Ashton station and Stalybridge, stabling for fourteen being located at the latter place. It was soon found, however, that the bus services were being run at a loss and in August William Oates agreed to operate them all for a consideration of £18 a month. He subsequently

submitted an offer for the purchase of the whole of the equipment – buses, horses, harnesses and so forth – which was accepted.

The other feeder service was provided on the Ashton Canal, and first mentioned at a meeting of the Manchester Directors on 8th January 1842, when Mr John Boulton¹ was asked to obtain details of a boat suitable for passenger traffic between Ashton station and Ashton. A little later the SA&M Board authorized the purchase of a 'fly-boat' for the service and, if necessary, the construction of a dock at Ashton station. Later still, when Boulton had gone into the business of horse-drawn passenger boats in a big way, he started a similar service on the Peak Forest Canal between Dukinfield (Dog Lane) station and Marple and Macclesfield. For this he purchased from the Glasgow & Paisley Canal six or seven disused boats which each accommodated 100 passengers and travelled at eight to ten miles an hour. Each boat was drawn by two horses, on one of which rode a postillion dressed in buckskin trousers. Fares charged were 1½d per mile 'cabin' and 1d per mile 'steerage', 60 lbs of luggage being allowed free; 2 from the SA&M Boulton received 3d for every passenger who paid the full fare into Manchester, an arrangement approved on 8th February 1843.

Incidentally, John Boulton had a namesake, one J. Boulton of the Norfolk Arms Hotel at Hyde, who was involved in an unusual case of trespassing in October 1842. Mounted on horseback and very much the worse for drink, he rampaged up and down the line near Newton & Hyde station, assaulted some of the railway staff and held up traffic in the process. Gretton was instructed to issue a summons against him, but the result, unlike the event,

was not recorded in the company's minutes!

By the close of 1842, when the SA&M had made some progress in equipping itself for handling goods and coal, the receipts were still meagre. Those for the week ending 14th December indicated that the 6,184 passengers conveyed had paid £194 115 1d. Parcels traffic had produced £2 105 3d and goods traffic £9 35 4d. The toll paid to the Manchester & Birmingham amounted to £37 45 2d. The first colliery branch was then being brought into use. This was a line to the Dunkirk Coal Company at Dewsnap. At the outset the colliery was given a special rate reduction from $2\frac{1}{2}d$ to 2d per ton per mile on condition that the price of coal to the consumer 'was reduced to give him the advantage'!

At this time the SA&M had concluded an agreement with one David Duncan (who carried the recommendations of responsible Birmingham & Derby Junction and North Midland Railways' officers, as well as of George Stephenson) over the maintenance of its permanent way. Provided he produced satisfactory securities the SA&M accepted his tender of £109 per mile per annum for keeping the whole of its lines in good repair. Apparently the

² The Chronicles of Boulton's Siding by A. R. Bennett (1927) and LNER Magazine (March 1927).

¹ Father of Isaac Watt Boulton, who founded the famous secondhand locomotive alteration, hiring and vending business at Ashton-under-Lyne.

securities sought were not forthcoming, for on 7th February 1843 the Manchester Directors accepted an offer made by Saville & Murgatroyd to take over the job at £148 per mile per annum for three years, paying them £400 for making good the current arrears of maintenance. This practice of employing a contractor for permanent way maintenance after the contractor for construction had done his job was followed by many other railways in those early days. Soon after the completion of the Saville & Murgatroyd agreement the SA&M placed a large order for further track materials – 7,000 tons of rails and 1,400 tons of chairs – this time with the Chillington Iron Company of Wolverhampton.

A Special General Meeting of Proprietors took place at the Albion Hotel, Manchester, on 31st May 1843, to consider a reduction in the size of the directorate. There had, however, already been some changes since those recorded in the last chapter. The resignation of John Rodgers, through pressure of other work, had been accepted on 9th February of the previous year, and William Bradley of Sheffield, having ceased to be a contractor to the SA&M, was elected to succeed him. Subsequently, John Sykes and John Turner had also resigned, both without replacement. And at the end of February 1843 William Sidebottom, the Deputy Chairman, had expressed a wish to leave the Board, but had been prevailed upon to remain for the time being.

It was agreed that the new Board should consist of ten Directors elected by ballot. This took place to the complete satisfaction of those present with the following result:

Manchester Directors	votes (including proxies)	Sheffield Directors		votes (including proxies)
John Chapman .	2,332	John Parker .		2,409
Edmund Peel Thomson	1,809	Michael Ellison		2,227
James Perry	1,543	Charles Appleby		2,209
Cornelius Randall.	1,476	William Bradley		1,942
Thomas Townend	1,353	Thomas Nicholson		1,352

Thomas Townend remained only a month, and was not replaced until the following year.

After the meeting John Parker was unanimously re-elected Chairman, John Chapman was similarly chosen Deputy Chairman, and the Board agreed to cut its total remuneration from £1,600 to £1,000 per annum.

During his review of the undertaking Parker had told the shareholders that excellent progress was being made with the Ashton and Stalybridge branch and revealed that the SA&M had been approached by the Sheffield & Rotherham Railway for 'making a confluence of the two stations' in Sheffield. The S&R had, in fact, invited the SA&M into its Wicker terminal. The proposal was undoubtedly prompted by the fear that a scheme then afoot to build a line from the future SA&M station on Nursery Street in Sheffield to the North Midland Railway at Chesterfield would rob the S&R of the revenue they were obtaining from the North Midland for the use of their line

SHEFFIELD,

ASHTON-UNDER-LYNE, AND MANCHESTER



The Public are informed, that on and after November 1st, 1843, the following will be the

Times of the Departure of Trains:-

		DO	NN T	RAINS	то	MANC	HEST	ER.					RES vick Str	
FROM	1	2	3	4	5	6	7	8	9	10	11	1 st. Class.	2nd. Class.	3rd. Class.
Glossop Brandbottom. Newton Dukinfield Ashton Fairfield Gorton Ardwick ARRIVES AT Manchester	A. M, 7 45 7 51 8 0 8 6 8 10 8 16 8 19 8 23 8 25	A. M. 8 45 8 31 9 0 9 6 9 10 9 16 9 19 9 23 9 25	10 0 10 6 10 10 10 16	10 45 10 51 11 0 11 6 11 16 11 16 11 19 11 23	Noon. 12 0 12 6 12 15 12 21 12 25 12 31 12 34 12 38 12 40	P. M. 1 40 1 50 1 58 2 6 2 8	P. M. 3 45 2 51 3 0 3 6 3 10 3 16 3 19 3 23 3 25 4ESTE	P. M. 4 0 4 0 4 15 4 21 4 25 4 31 4 34 4 38 4 40 R.	P. M. 8 0 5 6 5 15 5 21 5 25 6 31 5 34 5 38 5 40	P. M. 6 15 6 20 6 25 6 33 6 41 6 43	F. M. 7 0 7 6 7 15 7 21 7 25 7 31 7 34 7 38 7 40		s. d. 1 7 1 1 0 10 0 6 0 5 0 4 0 4	a, d. 1 1 0 10 0 7 0 4 0 3 0 3 0 3
FROM	1	2	3	4	5	6 .	7	8	9	10	11	lst. Class.	2nd. Class.	3rd. Class.
Manchester Ardwick. Gorton. Fairfield. Ashton. Dukinfield. Newton. Broadbottom. ARRIVES ARIVES Glossop	A. M. 8 45 8 48 8 52 8 57 9 4 9 7 9 13 9 24	9 45 9 48	11 0 11 3 11 7 11 12 11 19 11 22 11 28 11 39	Noon. 12 0 12 3 12 7 12 12 12 19 12 22 12 28 12 39 12 45	P. M. 1 0 1 3 1 10 1 17 1 22 1 33 1 29	F. M 3 0 3 3 3 7 8 12 3 19 3 22 3 28 3 39 3 45	P. M. 4 0 4 3 4 7 4 12 4 19 6 22 4 28 8 39	P. M. 5 0 5 3 5 7 8 12 5 19 5 22 5 28 5 39 5 45	P. M. 6 0 6 3 6 7 6 12 6 19 6 22 6 28 6 39	P. M. 7 0 7 3 7 7 7 12 7 19 7 22 7 29 7 39	P. M. 8 0 8 3 8 7 8 12 8 19 9 22 8 28 8 39	s. d. 0 s 0 s 0 s 0 lo 1 d 1 g	a. d.	8. d. 0 4 0 4 0 5 0 6 0 9 1 0

SUNDAY TRAINS.

DOWN TRA	INS .	TO M/	ANCHI	ESTER		UP TRAINS	FROM	MAN	CHES	TER.	
FROM	1	2	3	4	5	FROM	1	2	3	4	5
	A. M.	A. M.	P. M.	P. M.	P. 35.		A. N.	A. M.	P. M.	P. M.	P. 3
Blossop	7 45	8 45	1 0	5 30	6 45	Manchester	16 8.5	9 45	2 0	7 0	8
Broadbottom	7 51	8 51	1 6	3 36	6 51	Ardwick	# 14	9 48	2 3	7 3	8
Newton	8 0	9 0	1 15	8 45	7 0	Gorton	8 52	9 32	3 7	7.7	8
Dukinfield	8 6	9 6	1 21	5 51	7 6	Fairfield	9 57	9 57	2 12	7 12	8 1
Ashton	8 10	9 10	1 25	5 55	7 10	Ashton	9 4	10 4	2 19	7 19	8 E
airfield	8 16	9:15	1 31	6 1	7 16	Dukinfield	9 7	10 7	2 22	7 22	8 2
Porton	8 10	3 19	1 34	6 4	7 19	Acwton	9 13	10 13	2 28	7 29	8 2
rdwick	8 23	9 23	1 35	6 8	7 23	Broadbottom	9 24	10 24	2 39	7 39	8 3
ARRIVES AT		1				ARRIVES AT					1
Manchester	8 25	9 25	1 .40	6 10	7 25	Glossop	9 30	10 30	2 43	7 43	8 4

Omnibus Fares to and from Ashton, 2d. cach,—Stalybridge, 4d. cach.—Fly Boat to Ashton,
First Class, 2d. Second Class, 1d.

N. B .- Each passenger allowed 60lb, weight of luggage, free of charge.

Parcels may be booked at the above-named stations, and also at the Company's Office, Angel Hotel, (late Flying Horse) 107, Market-street, and at the Station, Store-street, Manchester, including delivery, WITHIN ONE MILE of the Railway Station, at the following Rates,—

To and from Gorton, Fairfield, Ashton, Stalybridge, Dukinfield, &c.

For parcels	under 14lb.		 0	4
From 14lb.	and under	28lb	 0	
		56lb		
From Solo	and under	11210	 T.	U

To and from Newton, Broadbottom, Glossop, &c.

Under 14lb., 6d.—28lb., 9d.—56lb., 1s.—112lb., 1s. 6d.—Dogs with passengers, 3d. each.

CONVEYANCES TO AND FROM SHEFFIELD.

COACHES will leave Sheffield every day (except Sunday) at Ten o'clock, and a quarter-past Two o'clock, via Ashopton Inn, Woodlands, Snake, and Glossop, and meet the Sixth and Tenth trains to Manchester.—Also at Eight o'clock, via Woodland, and meets the Fifth train to Manchester. The Railway Coach leaves Sheffield every Sunday Morning at Nine o'clock, and meets the One o'clock train to Manchester; returning from Manchesterat Two o'clock, and meets the One o'clock train to Manchester, arriving at the Second and Fifth, or the 9h. 45m. and One o'clock trains from Manchester, arriving at the Commercial and Falace Inns, Sheffield, in time for Coaches the same day to Doncaster, Worksop and Retford, and for the Trains to Chesterfield, Derby, Nottingham, Loughborough, and Leicester; also by the Seventh or Four o'clock p. m. train.

BY ORDER.

Train service handbill issued in October 1843.

between Masborough and Sheffield. Apart from the physical drawbacks of such an arrangement, the SA&M were supporting the Chesterfield line and it is not surprising, therefore, that the S&R proposition was declined. As related in a subsequent chapter, a connexion was made nearly four years later with the S&R, after it had been taken over by the Midland Railway.¹

A timetable card issued by the SA&M on 1st May 1843 showed improvements in the train service. All trains now ran between Manchester and Glossop, there being eleven each way on weekdays, two down and two up trains calling only at Ardwick and Ashton, thereby reducing the respective journey times to 25 and 30 minutes. The Sunday service had been increased to five trains each way, one of the up trains starting from Ardwick. Later in the year, on 1st November, further alterations were made, and a reproduction of the original 5 inches wide by 10 inches deep handbill then issued is illustrated on the opposite page.

At this time the SA&M had received several applications for annual tickets from Glossop and Broadbottom into Manchester. The Secretary was instructed to inform all applicants 'to make an offer to the Board stating the probable number of times per week they expect to travel and the amount they will pay for the accommodation, all such tickets to be paid for half yearly in advance.' Rather a quaint way of doing season ticket business! However, on 1st November the Board decided not to issue any annual tickets until the works on the line were further advanced.

In the preceding May Miller & Blackie got the Penistone (No. 11) contract for £39,000 and J. & R. Crawshaw the Wortley (No. 12) contract for £51,803. When the second half yearly meeting took place at the Cutler's Hall Sheffield on 27th September it was announced that the Carlcoats No. 10 contract had been awarded to Nicholson, and the Wharncliffe No. 13 contract to Miller & Blackie. The four accounted for 16½ miles of lines east of the summit tunnel. The Directors' report also indicated that during recent months the offices of the SA&M had been moved from 15 Piccadilly to Store Street station in Manchester, and from the Corn Exchange to the Nursery in Sheffield. Other offices in Church Street, Sheffield, were rented at the end of the year for the Engineer.

The prospectus of the Barnsley Junction Railway had been issued in 1843. Its Provisional Committee of twelve included four SA&M Directors, John Chapman. Michael Ellison, William Bradley and Cornelius Randall, and Joseph Locke and Alfred Jee were named as Engineer and Acting Engineer respectively. Locke had furnished the preliminary plans and estimates, and the SA&M had already received a deputation of citizens from the town of Barnsley who had promised their full support. The capital of £200,000 in shares of £25 each was soon over-subscribed. The Board decided that the new line should be amalgamated with the SA&M as soon as the necessary Act had been obtained, and a resolution to this effect was unanimously

¹ Formed 10th May 1844 by the amalgamation of the North Midland, Midland Counties and Birmingham & Derby Junction Railways.

carried by the shareholders at a special meeting held on 17th January 1844. Subscribers to the Barnsley Junction were guaranteed by the SA&M 5% in perpetuity, from the passing of the Act, on all money to be called and paid up. Some considerable time was still to elapse, however, before the Barnsley Junction got its Act. The Bill was not allowed to proceed beyond the Standing Orders Committee in the 1844 Session because of inaccuracies in the preparation of the plans.

Apart from the Barnsley Junction, the SA&M was interested in two other lines projected at this time. One was to run from Stalybridge to Huddersfield and thence connect with the Manchester & Leeds Railway at Cooper Bridge. It originated from a petition made to the SA&M in November 1843 by the inhabitants of Saddleworth and neighbourhood and Jee was requested to make a survey. It was promoted as the Huddersfield & Manchester Railway & Canal Company. The other was from Penistone to Huddersfield, for which Locke was asked to consider a route. The prospectus of this line, the Huddersfield & Sheffield Junction Railway, appeared in 1844, its Provisional Committee containing no less than five SA&M Directors; in it was stated the intention of getting powers to lease or sell the undertaking to the SA&M. The ultimate acquisition of these two railways would secure the northern flank of the SA&M, give it a monopoly of Huddersfield traffic, and put it well and truly on the road to Dewsbury, Leeds and Wakefield.

Of greater significance was the Sheffield & Lincolnshire Junction Railway, projected from the SA&M at Sheffield to Gainsborough. A deputation from the Provisional Committee of this line met the Board at Glossop on 6th August 1844. Later in the same month it was agreed to lease the S&LJ at a rental equal to 4% on the outlay, the capital expended to be limited to a specified amount; profits beyond 4% upon capital were to be shared between

the two companies.

By now the SA&M had got a little farther eastwards. The section from Glossop to Hadfield and Woodhead was opened by the Directors on Wednesday, 7th August 1844, and to the public the following day. The 800 workmen on the Dinting Vale and Longdendale contracts were each regaled with a free quart of ale, and the Directors gave themselves free ivory tickets, illustrated on page 38, one of which was also presented to General Pasley, the Government Inspector of Railways. The maintenance of the permanent way of the new section was taken over by Saville & Murgatroyd, on the same terms as their existing contract, from 1st August the following year.

The new weekday service offered four up trains from Manchester to Woodhead, one from Newton to Glossop, one from Newton to Woodhead, four from Manchester to Glossop, two from Manchester to Ashton and one from Manchester to Newton. In the down direction there was a similar service, save that there were five trains from Woodhead to Manchester and no trains starting at Woodhead and terminating at Newton, or starting at Newton and terminating at Manchester. The Sunday service included five trains each way between Manchester and Woodhead. Most trains stopped at all stations, the throughout journey taking 70 minutes in the up direction

and 9 minutes less in the down. Single fares between Manchester and Woodhead were 4s first class, 3s second and 2s third. The coaches of Oates & Company and King, Dunhill & Company plying between Manchester and Sheffield connected with the trains at Woodhead. At the latter place, which at times can be one of the most bleak and windswept in the country, the SA&M wisely provided a licensed refreshment room, which was let at 30s per week.

Anticipating Parliamentary sanction for their Ashton and Stalybridge line the SA&M had already accepted T. W. & J. Fowler's tender of £35,876 for the construction of this 2½ miles branch, to be double track as far as Ashton. Although a rival line, the Ashton, Stalybridge & Liverpool Junction (backed by the Manchester & Leeds Railway) was in the field, the SA&M secured the necessary Act in 1844 and, having 'squared' all the landowners, good progress was soon being made. Work on another feeder was begun in this year. In this case no Act was required, for it was the one-mile branch to Glossop, in the nature of a private line, built at the expense of the Duke of Norfolk, who was guaranteed 5% interest on his outlay up to £9,000. The contract for its construction went to Jonas Gregson & Company for £4,958 on 19th June, and on the same date Armstrong & Hacking's tender of £2,005 for the station was accepted.

In another much more important direction better progress was being achieved. Adequate engine power to overcome the torrents of water encountered in the Woodhead tunnel had now been installed. By September 3,250 lineal yards had been completed and were ready for the permanent way, leaving 2,050 yards yet to be tackled. At the Sheffield end much of the work for the Old Park Wood (No. 14) contract, let to Buxton & Clarke, had afforded employment for the able-bodied paupers of Sheffield. The final contract (No. 15), up to the termination of the line was awarded to Miller & Blackie for £9,500 in May 1844. One Thursday in the following August two of the more energetic Directors, Appleby and Bradley, walked the length of the route from Sheffield to Penistone, and reported to their colleagues that despite difficulties on some of the contracts, a satisfactory rate of progress was being maintained.

Although since its opening the SA&M suffered several minor mishaps it possessed an excellent safety record. Up to the end of 1843 nearly 1,403,000 passengers had been conveyed without the slightest injury to anyone. The first fatal accident, hardly the fault of the company, occurred on 1st June 1844. Mary Hughes, a passenger from Manchester, crossed the line at Ashton in front of a locomotive and, running into one of the buffers, fell across the rails. The engine and tender went over her legs and she died within an hour. That day was a black Saturday for the SA&M. Some loaded coal wagons ran off a siding and smashed into a staircase at Ardwick, and at Broadbottom all the carriages on a train were derailed and much damaged in consequence. Saville & Murgatroyd, the track maintenance contractors, were held responsible for the last-mentioned mishap, and had the cost of the carriage repairs deducted from their next account. An extraordinary mishap occurred in the

following October. A 1st class carriage ran off a siding at Newton and, gathering momentum, lolloped the seven odd miles to Manchester, where a watchful pointsman, Robert Hardy, prevented it from entering the station by diverting it into a siding. He was awarded 10s for his resourcefulness.

Some changes in the directorate took place in 1844. Richard Matley and Joseph St John Yates joined the Board on 28th February to fill the gaps caused by the resignation of Thomas Townend in the previous year and of Edmund Peel Thomson on 3rd January. When the half-yearly meeting took place on 27th March, Matley and Thomas Nicholson were due to retire by rotation. The former was re-elected, but Nicholson was unsuccessful and, in his place, Thomas Blake, who had previously served as a Director for six

years, rejoined the Board.

Changes in the method of remunerating the Directors were also made in this year. At the meeting of the Board held on 24th July 1844 it was agreed that from and after 1st January the 'Travelling and Tavern Expenses' of the Directors attending Board meetings be paid (at the time) as at present and that the balance be divided half-yearly (on 1st July and 1st January)amongst the Directors in proportion to the number of such meetings each shall have attended. It was also agreed that the Chairman during the Parliamentary Session and members of deputations during their absence on company's business 'be presumed to be actually present at every Board which may take place during such periods respectively'.

A staff appointment worth noting during 1844 was that of John Ward, guard No. 1, who on 27th July became the company's timekeeper with the

sole management and regulation of all the clocks on the line.

The Board's proposals for the Sheffield & Lincolnshire Junction Railway were confirmed at the half-yearly meeting of the shareholders at the SA&M Store Street offices on 25th September 1844. What John Parker, the Chairman, could not reveal at that juncture were the feelers which had just been put out to the Board by the Manchester & Birmingham Railway, aided and abetted by the Midland Railway, to lease the SA&M. Notwithstanding the wrangles over accommodation and other matters at Store Street station, which had been settled by arbitration in August 1843, relations between the SA&M and the Manchester & Birmingham had generally been very cordial. On more than one occasion the Manchester & Birmingham had helped the SA&M by the loan of locomotives and carriages when the latter had been desperately short of both; indeed it had offered to meet the whole of the SA&M's needs for locomotive power. The decision taken by the two companies in 1844 jointly to promote, together with Lord Francis Egerton, the Manchester South Junction & Altrincham Railway, which would connect them with the Liverpool & Manchester Railway, had brought them closer together.

Coming to the conclusion that a more intimate association with the SA&M would be to their advantage, but feeling that by themselves they would be unable to make a sufficiently attractive bid, the Manchester & Birmingham had approached the Midland with the suggestion that they should both

lease the SA&M. The recently formed Midland Railway, which possessed the ambitious George Hudson as Chairman, at once agreed to the proposal. To them the SA&M offered a direct route to Manchester and, in the continued absence of the Barnsley Junction Railway, an end to dependence on the Manchester & Leeds Railway for the movement of Manchester-bound traffic via Normanton.

It was at Normanton that deputations from the directorates of the three companies assembled on Saturday, 12th October 1844, to discuss the terms of a lease. The offer made by the Manchester & Birmingham and the Midland was accepted by the SA&M and a special meeting of shareholders was called for 4th November at Store Street station to confirm the arrangements. By now, however, the Manchester & Leeds Railway had learned what was afoot and on the eve of the meeting sent a counter offer on slightly better terms. Nevertheless, the SA&M shareholders supported their Directors and empowered them to apply to Parliament for the necessary authority. The proposals embraced the setting up of a Committee, appointed by the three railways, to manage the SA&M for a period of thirty years beginning six months after its completion throughout, and terminable by either party at the end of the first ten or twenty years by three years' notice. The lessees undertook to pay all interest on loans (not to exceed £,700,000 in toto) and all rents, rates, working expenses and other charges to which the SA&M was or might be liable, at the same time assuming the guarantees of the SA&M to the Barnslev Junction, Sheffield & Lincolnshire Junction, and Manchester South Junction & Altrincham Railways.

A Bill was duly deposited to legalize the lease, but before many months had passed it was manifest that the Manchester & Birmingham was becoming closely associated with the London & Birmingham. This was not at all to the liking of many of the SA&M shareholders, who had been called to meet again on 15th April 1845 to ratify the Manchester South Junction & Altrincham, Barnsley Junction and Sheffield & Lincolnshire Junction Bills and to approve the lease to the SA&M of the proposed Huddersfield & Manchester Railway & Canal Company. These measures having been unanimously carried, John Chapman, who was in the chair, then moved an adjournment until 7th May. He was negatived by Dr George Calvert Holland of Sheffield, who moved an amendment, seconded by a Mr Spencer, that the meeting should proceed at once to consider the leasing of the SA&M by the Manchester & Birmingham and Midland Railways. On a show of hands, 57 were held up in favour and 39 against, but one Isaac Ironside demanded a scrutiny. The Chairman then suggested that each shareholder should write his name, the number of his shares (originals and quarters)1 and how he voted on a piece of paper and that the Solicitor and Secretary should act as scrutineers.

When this had been done the Chairman announced that Dr Holland's

¹ At this time the capital of the SA&M stood at £1,150,000 in 7,000 shares of £100 each and 18,000 quarter shares of £25 each.

amendment was carried by 1,586 votes to 1,008. Joseph St John Yates thereupon moved, seconded by Michael Ellison, a resolution approving the lease. This brought Dr Holland again to his feet, upon which, it was reported, he remained for an hour and a half. He argued that the London & Birmingham had no real interest in the welfare of the SA&M and contended that the latter constituted the 'marriage portion' of the Manchester & Birmingham for the London & Birmingham. Furthermore, he had no brief for the Midland which, he said, as one of the lessees, would undoubtedly see to it that the SA&M was deprived of its natural outlets to the south and the east. His eloquence and persuasion won the day. The shareholders repudiated the Bill to legalize the lease and so another scheme that would have changed the course of railway history came to nought.

Early in 1845, on 22nd January, the contract for Stalybridge station was awarded to Bell & Worthington of Hulme for £2,079 and that for Ashtonunder-Lyne station to Mellor & Greenhalgh of Manchester for £1,484; on 15th April the tenders of Saville & Murgatroyd for £485 for Hadfield station (permanent structure), of Thomas Nicholson for £460 for Dunford Bridge station and of Miller & Blackie for £387 for Penistone station were

accepted.

Four days later, on 19th April, a nine-arch viaduct then under construction at Ashton on the Stalybridge branch collapsed, killing 17 of the workmen engaged upon it. This disaster was attributed to unevenly distributed ballasting on the top. The Directors paid the Constable of Dukinfield & Ashton the funeral expenses of the unfortunate men involved $-\pounds 47$ 4s $6\frac{1}{2}d$ – and instructed Jee to deduct the amount from the next account of the contractors, T. W. & J. Fowler! A little later the Board contributed £10 towards a fund opened for the widows and children of those who had lost their lives.

In the same month, owing to negligence of three of the staff of Saville & Murgatroyd, a wagon loaded with metal broke loose at Woodhead station and ran back over the main line towards Glossop at increasing speed. Newly delivered locomotive No. 13 was standing in its path at Glossop station, but her driver, James Buxton, fortunately saw the wagon careering towards him. Putting on steam he ran his engine before it 'and allowed it gradually to overtake him and then brought it back to Glossop station uninjured'. Saville & Murgatroyd's three men concerned were discharged. A similar fate befell the company's Bookkeeper, John Whiteley, who 'having violated the confidence reposed in him' was dismissed on 28th May. He was succeeded by W. H. Rowley, who was appointed at £150 per annum.

On 9th June the short single line branch to Glossop was opened for traffic; this was worked by the SA&M from the outset and powers were obtained in the Parliamentary Session of the following year to take it over from the Duke of Norfolk. The branch joined the main line in a facing direction to Manchester $\frac{3}{4}$ of a mile east of Glossop Junction station, which hitherto had been

called Glossop and was soon renamed Dinting.2

¹ From the diary of Alfred S. Jee in the possession of Mr J. Stafford, ² See page 118.

The eastern section of the main line, from Dunford Bridge to Sheffield, was now nearing completion. Early in June Peacock was instructed to get four locomotives and 'as many carriages and wagons as he can round to Sheffield without delay', a direction of the Board which, had it been carried out literally would have denuded the Manchester Woodhead section of all its rolling stock! On the 18th of the same month the establishment of the seven stations - Dunford Bridge, Penistone, Wortley, Deepcar, Oughty Bridge, Wadsley Bridge and Sheffield - was laid down. Following previous custom, a clerk in charge was appointed at each place, save Sheffield, assisted by a porter and a policeman at most stations. At the Bridgehouses terminal in Sheffield. which was regarded as temporary, there was a Traffic Manager (later designated Station Master), W. Martin, who had 14 men in his charge, ranging from booking clerks and guards to porters and 'strolling police'. Altogether the eastern section needed some 40 additional staff as compared with the 15 appointed when the Glossop Woodhead extension was opened. On 2nd July at the Sheffield Directors' meeting, the men selected for the eastern section were 'called in separately and the nature of their situations, etc., explained to them by the Chairman, after which their appointments were confirmed and they were ordered to be at their posts by 6.30 a.m. on Monday, 14th July next, which they agreed to.'

King & Dunhill were employed to bridge the gap of a little over three miles now remaining between the railheads at Woodhead and Dunford with coaches for the passenger and parcels traffic. Originally it had been the intention to provide a station at Hazlehead Bridge, which was to serve as an exchange point between the trains and the buses operating to and from Huddersfield via Horley and Holmfirth. Owing to the bad nature of the approach road this was not proceeded with until after the line had been opened throughout between Manchester and Sheffield and Dunford Bridge was so used in its place. Another feeder bus service was operated between Dunford Bridge and Huddersfield by way of Shelley, Skelmanthorpe, Denby

Dale and Ingbirchworth.

As the Directors had already travelled over the line from Sheffield to Dunford Bridge in June with their Engineer and the contractors, it was opened to the public, without formalities, on 14th July. Some music and bellringing at the Sheffield end was, however, indulged in, and every workman concerned received free refreshment to the value of one shilling. Shareholders who desired to inspect the line were given a couple of tickets for use on the 9.25 a.m. train from Sheffield to Dunford Bridge on the opening day.

Local press comment was somewhat extravagant; the Sheffield Iris glowingly

reported:

'The opening of this important line, for passenger traffic, took place on Monday morning, when large crowds had congregated in the vicinity of the Sheffield terminus to witness the first starting of some of the most splendid carriages that ever adorned a line of railway. To say nothing of the First and Second Class carriages, those of the Third Class are unparalleled for comfort and protection, being covered at the top and sides and richly painted on the exterior. The Guard box behind is sheltered on three sides and the top, so that even in the coldest season, this important functionary will be

provided from the lar emency of the weather. The early trains were crammed with passenger, or a credie, to the animated strains of a band of music, and making their start amid the cordial cheers of the spectators.

so so rection that they be a confirmed to the public intaking any position that they become proper on the opening day at the Sheffleid terminus. This linerality on the part of the cherchord, and they appear and enterprise authoritation by passengers. Not a made account happened on any part of the line, owing to the care used, and the execution regulation, adopted. The trains run regulatly, and in strict conformity with the timetable."

The last named, taken from Brodsham: Morthly Railway and Steam Varigation Guide of August 1845, is given opposite.

Nevertheless, the Sheffield Dunford Bridge section did sustain one serious accident during its period of physical isolation from the older part of the SA&M, thus nearly disproving George Stephenson's classic observation that in the event of a collision between a train and a cow 'it would be very awkneard for the coo'. Soon after leaving Dunford Bridge on the evening of 6th October 1845 a passenger train ran into a cow which had strayed on the line owing to the negligence of a drover from Penistone market. The locomotive and all the carriages were derailed and damaged, severely injuring the guard and thoroughly shaking up the passengers. The cow was almost cut in two and killed on the spot.¹

On Jee's advice no locomotive turntable was provided at Dunford Bridge and as a result many of the engines hauling the trains between this place and Sheffield ran tender first until the line was opened throughout. A permanent engine shed and pit were installed at Dunford Bridge. Coal sidings were laid down at Oxspring and Thurgoland both of which were situated between Penistone and Wortley; towards the end of 1845 it was decided to provide passenger stations at the two places, these probably being brought into use shortly after 5th December, when the clerks in charge were appointed.

In anticipation of the completion of the main line the Board authorized the construction of permanent stations at Gorton, Newton and Mottram formerly Broadbottom, and Bell & Worthington's tender of £1,600 for the three was accepted on 5th August. Gretton's future responsibilities as Superintendent of the Line were also recognized at this time; his salary was raised to £200 and he was relieved of some of the detail work at the Manchester terminal by the appointment of John Ward, the company's time-keeper, as station master there at 30s per week. Ward was succeeded by Frederick Walker, another guard.

At long last all that remained was the completion of the Woodhead tunnel. And on 20th December General Pasley, the Government Inspector of Railways, accompanied by the Chairman, Deputy Chairman and other Directors, together with the Engineer-in-Chief, the Engineer and some of his staff, inspected the completed works, including the Stalybridge branch. 'In going through the tunnel', stated a contemporary account in the Manchester Guardian, 'the General was preceded in the train by a waggon bearing six

Illustrated London News, 11th October 1845.

TRAIN SERVICE BETWEEN SHEFFIELD AND DUNFORD BRIDGE AUGUST 1845

DOWN TRAI		WE	EKDAY	SUNDAYS						
Sheffield Wadsley Bridge Oughty Bridge Deep Car Wortley Penistone Dunford Bridge	dep.	a.m. 7 25 7 33 7 40 7 49 7 54 8 6 8 18	a.m. 9 25 9 33 9 40 9 49 9 54 10 6	p.m. 12 25 12 33 12 40 12 49 12 54 1 6	p.m. 4 25 4 33 4 40 4 49 4 54 5 6 5 18	p.m. 5 25 5 33 5 40 5 49 5 54 6 6 6	a.m. 9 0 9 8 9 15 9 24 9 29 9 41 9 53	a.m. 10 25 10 33 10 40 10 49 10 54 11 6	p.m. 3 0 3 8 3 15 3 24 3 29 3 41 3 53	p.m 4 2: 4 3: 4 4: 4 4: 4 5: 5 (5
Woodhead	dep.	9,25	11 25	2 25	6 25	7 25		p.m. 12 25	5 25	6 2
Manchester	arr.	10 26	p.m. 12 26	3 16	7 26	8 26		1 31	6 31	7 3

^{*} Not stopping at Gorton,

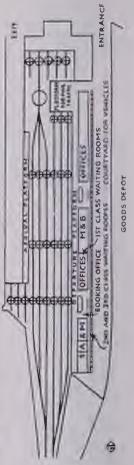
[†] Not stopping at Mottram, Fairfield and Gorton.

UP TRAINS		WE	EKDAY	SUNDAYS						
Manchester	dep.		a.m. 9 45	p.m. 1 0 *	p.m. 4 0 †	p.m. 6 0 †	 	a.m. 9 45	p.m. 20	 G
Woodhead	arr.		10 53	2 6	5 0	7 0	a.m. 7 55	10 55	3 10	p.m 5 5
Dunford Bridge Penistone Wortley Deep Car Oughty Bridge Wadsley Bridge Sheffield	dep.	a.m. 8 45 8 57 9 7 9 12 9 20 9 26 9 31	noon 12 0 12 12 12 22 12 27 12 35 12 41 12 46	3 13 3 25 3 35 3 40 3 48 3 54 3 59	6 7 6 19 6 29 6 34 6 42 6 48 6 53	8 7 8 19 8 29 8 34 8 42 8 48 8 53	10 30 10 42 10 52 10 57 11 5 11 11	12 2 12 14 12 24 12 29 12 37 12 43 12 48	4 17 4 29 4 39 4 44 4 52 4 58 5 3	7 (7 12 7 22 7 35 7 46 7 46

^{*} Not stopping at Gorton. † Not stopping at Gorton, Fairfield and Dukinfield. N Starting from Newton at 7 15 a.m. G Starting from Glossop at 5 20 p.m.

Exterior of the original terminal at Manchester, first known as Store Street station.





Plan of Store Street station.

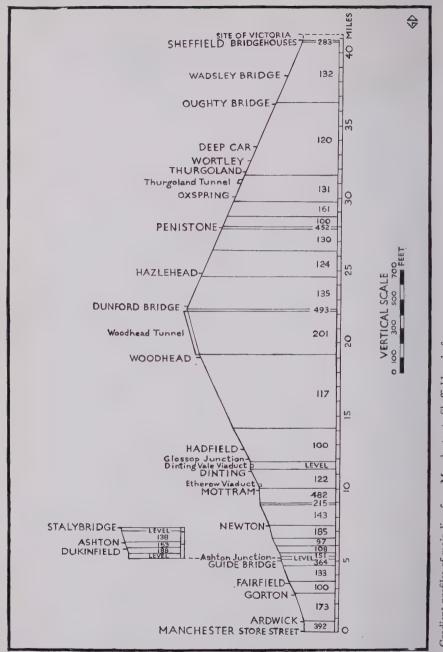
men with torches, which were held to the roof and sides, the train proceeding very slowly so that the nature of the work might be closely and carefully examined, and we understand that General Pasley expressed his entire satisfaction with the work generally, and indeed declared that it was one of the finest pieces of engineering he had ever seen'.

In the same account reference was made to a test carried out on the viaduct at Ashton the previous day in the following words: 'A train of engine, tender and 6 coaches passed over it weighing in all 84 tons, and it is supposed that on no future occasion is it likely that an equal weight in so small a compass will ever pass over these arches; the ordinary average weight of a carriage full of passengers being about 3 tons this would give a weight equal to a train of 27 carriages full of passengers, with the additional disadvantage of having that weight not spread over the space that would be occupied by a train of that length, but all concentrated within the length of 8 carriages.'

The formal opening of the Woodhead tunnel and of the whole line between Manchester and Sheffield took place on Monday, 22nd December 1845, more than seven years after the first ground had been broken. At 10.05 a.m. precisely, a special train of twenty carriages drawn by two locomotives, with flags flying and the Sheffield Yeomanry Band in full blast, left the Bridgehouses terminal in Sheffield. On the train were the SA&M Chairman and several Directors, Lord Worsley, the Mayor of Sheffield, the Master Cutler and many Sheffield guests. Proceeding through country mantled white under a recent heavy fall of snow, the train reached Dunford Bridge at 10.50 a.m., where it stopped for 20 minutes for the engines to take water before entering the Woodhead tunnel. On emerging at Woodhead after a little over 10 minutes in the tunnel the passengers gave three hearty cheers, in which no doubt their enthusiasm was mingled with relief at having passed through what was was then the longest subterranean bore in the country, 3 miles 22 yards. Manchester was reached at 12.15 p.m. to the accompaniment of See the Conquering Hero Comes from the band, which appears to have been the signature tune for the opening of many early railways.

At about 1.0 p.m. the guests from Manchester and district were welcomed by John Parker and his colleagues and 35 minutes later the special train set out upon its return journey to Sheffield. The contemporary account in the Manchester Guardian stated that the two locomotives hauling the train were Nos. 17 and 19, which had recently been delivered to the SA&M by Sharp, Roberts & Company. Stops were made at Newton, Mottram and other stations to pick up more guests, and at the junction of the Glossop branch to allow the party to inspect the Dinting viaduct. The Woodhead tunnel was threaded in 13 minutes and Sheffield reached at 4.20 p.m., the guests then proceeding to the Cutler's Hall where, it was recorded, 'a very handsome and substantial collation awaited them'.

Commencing at 5.0 p.m., the dinner was attended by some 230 gentlemen. In the gallery were stationed the West Riding Yeomanry Cavalry Band and, it was said, 'a number of ladies who seemed to take a great interest in the proceedings'. Then, in the words of the *Manchester Guardian*, 'The cloth having



Gradient profiles of main line from Manchester to Sheffield and of the Stalybridge branch, showing stations in use at the beginning of 1846. Based on an MS&L official diagram.

been drawn at about twelve minutes past six and Non Nobis Domine sung, the Chairman gave in succession "The Queen", "Prince Albert", "The Queen Dowager and the Royal Family" and then the toast of the evening "Prosperity to the Sheffield, Ashton & Manchester".' Mr Parker followed these with a review of the unparalleled difficulties with which the enterprise had had to contend, the struggles against events with impoverished finances the distrust of the public, and the doubts of the shareholders. Nevertheless, 'the day, the long-expected, long hoped-for and auspicious day had at length arrived, he said, when the Board of Directors over which he had the honour to preside were enabled to offer to that great district and the important communities which surrounded it, a straight road and, he hoped, an excellently constructed road, from this great city of manufacturers (Sheffield) to that greater home of manufacturers and commerce which they had that day seen on the other side of the island'. Various other speeches followed and then those who had to return to Manchester and district withdrew, to leave by a special train at 0.30 p.m.

The SA&M gave all the men engaged on the tunnel a bonus of 20s and, in addition, treated the 300 workmen in the employ of Hattersley to a roasted bullock at Saltersbrook with every other requisite for a good dinner. The butchers were the cooks for the occasion. They fixed through the carcase one of the rails used for the line and, helped by a blacksmith, succeeded in making a suitable spit. This was turned by two men at intervals from midday Sunday, 21st December, until 1.0 p.m. the following day, when it was cut up in large pieces and served to the men in a tent put up nearby for the

purpose.

All these festivities provoked the clerks at the Manchester terminal to ask the Board to give them a dinner to celebrate the opening of the line. The request was granted, it being ordered that the meal was to be 'under the direction of Mr Gretton and Mr Platford, the price not to exceed 55 per head'.

On Tuesday, 23rd December, the line between Manchester and Sheffield, and the Stalybridge branch, were opened for public traffic. SA&M trains now ran over 44 miles of line, made up as follows:

Main Line						Miles	
Manchester (Store Street)-A	rdwick	i juncti	on (M&B)		$\frac{3}{4}$	
Ardwick junction-Godley (sin	te of o	ld stati	on)			7½	
Godley (site of old station)-E	3roadb	ottom				$I\frac{1}{2}$	
Broadbottom-Dinting .						2	
Dinting-Woodhead .						71	
Woodhead-Dunford Bridge						31	
Dunford Bridge-Sheffield (Br	ridgeh	ouses)				$18\frac{1}{2}$	
							403
Branch Lines							
Guide Bridge–Stalybridge Dinting–Glossop					٠	21	
Dinting-Glossop						I	
							$3\frac{1}{4}$
							44

TRAIN SERVICES AND FARES BETWEEN SHEFFIELD AND MANCHESTER JANUARY 1846

						DAY					1	SI		DAY	s	
OWN TRAINS					WEEK							a.m				
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^{*} Refreshments available at this station.

Double tickets from Sheffield to Manchester and back, or vice versa, returning the same day, available as follows:

By express trains: 1st 13/6, 2nd 10/6. By other trains: 1st 12/3, 2nd 9/3, 3rd 6/9.

The change of name of Dinting station has already been noted. Ashton became Guide Bridge and Broadbottom was renamed Mottram in July 1845. Concurrently with the opening of the main line throughout and of the Ashton and Stalybridge branch, a station named Dukinfield was brought into use on the latter and its namesake on the main line, originally called Dukinfield (Dog Lane), was closed. At the same time, permanent buildings at Woodhead station replaced the temporary terminal structures there.

During the few days which remained of 1845 the train service, according to the Marchester Guardian, consisted of six trains daily each way between Manchester and Sheffield, and eleven each way between Manchester and Ashton or Stalybridge. The main line train service introduced on 1st January 1846, and fares, taken from Bradshaw's Monthly Railway and Steam Navigation Guide, are shown opposite. Incidentally, this publication was, by order of the Directors, supplied to all SA&M offices and stations from

August 1842.

Woodhead Tunnel and other Civil Engineering Features

The engineering pièce de résistance of the SA&M was the Woodhead tunnel which, with a length of 3 miles 22 yards, was the longest in the country when it was opened. The original scheme was for a tunnel to accommodate two tracks1 but, as already mentioned, it was decided to economize by constructing a single-line tunnel. Nevertheless, the possible need for a second tunnel was not overlooked and in The Times of 28th October 1837 Lord Wharncliffe stated that enough land had been acquired to enable this to be driven without further purchase.

An essential preliminary to a civil engineering task of this magnitude, to be accomplished in a locality miles away from the nearest town, and bleak and desolate beyond words in winter, was the construction of means of access and of housing for the workmen employed. Vignoles expressed the latter consideration in these words in a letter read to the Board at its meeting at Penistone on 18th July 1838: '... But as there is no accommodation for workmen for several miles from the tunnel, and it will be necessary to have men on the spot, I have procured from the Government stores 13 tents of various sizes, some very large, which will enable me to shelter the men during the summer and until buildings can be erected. I beg strongly to urge on the Directors the propriety of purchasing land at each extremity and perhaps midway, also along the tunnel, and of building cottages, shops, etc. etc., which will always be useful hereafter, or at all events let so as to return a fair interest on the investment.'

Although Vignoles was authorized to sink the first vertical borehole on 31st July 1838 - over two months before the first sod of the SA&M was cut it was not until 29th May of the following year that contracts were placed for the erection of cottages, stables, magazines and so forth, and for the construction of over four miles of cart roads across the moors for the conveyance of coal and materials from the public roads. By the end of August 1839 the buildings and roads were nearing completion and work on the tunnel itself was begun in earnest in September.

Woodhead tunnel was built on an inclination of 1 in 201 rising in an easterly direction. According to the Manchester Guardian of 27th December 1845 it was 'driven through the great millstone grit beds which form the lower portion of the coal series below the first seam of coal. These rocks are

¹ SA&M Provisional Committee 14th October 1836.

found occasionally alternating with argillaceous shales and milder forms of sandstone. Construction was accomplished by working from each end towards the centre, and by means of five six originally contemplated by Vigniles pertical shafts; these shafts possessed an effective diameter of about 8 feet, the first from the western portal being 182 yards, the second and harth 180 yards, the third 102 and the fifth 135 yards in depth. In each shaft a set of points, pumps was provided, these being operated by a 20-h.p. steam engine.

The sinking of the vertical chaits and the driving of the horizontal driftwars were carried out under the direct control of the SA&M and the immediate superintendence of their agent. Thomas Nicholson. The centre line of the tunnel was transferred from the surface down the shafts by suspended were, from which it was produced at tunnel level by theodolite. Combined with measurements of depth, the headings from the various shafts were then set out, to such a degree of accuracy that when the driftways from the shafts met each other there were never more than a inches deviation.

Expenditure on the tunnel and its ancillary works had reached £60,560 by mid-February 1842. When in that year contractors were appointed, on Locke's recommendation, to complete the work. Richard Hattersley taking the western portion and Thomas Nicholson the eastern and greater part, it was perforated throughout save for about 1,000 yards. Tenders of £39,000 and £45,000 respectively were accepted from these gentlemen during the

first half of 1843.

14' 6" high'.

It was probably because James Perry was a Director that the SA&M serically transidered employing atmospheric traction through the tunnel; Perry was also Vice-Chairman of the Dublin & Kingstown Railway, the Dubles extension of which was then being so equipped. At a Board meeting at G. so plan this January 1843 it was decided 'That as a height of 14' 6" would be sufficient for the tunnel provided the atmospheric principle of traction be used in it and as this principle will be proved on the Kingstown & Dalker Railway within four or five months from the present time, the Engineer be instructed to arrange the prosecution of the works so that they shall be tartied on as near to the eastern face of the tunnel as practicable with it materially delaying the completion or subjecting the Company to any additional cost exceeding two or three hundred pounds, and generally that as little expectiture as possible shall be incurred until the atmospheric

The Kingstown Dalkey atmospheric line was formally opened on 19th August 1843¹ and in 13th March of the following year when it was about to begin carrying fare-paying passengers. Locke was asked to report on the venture and say whether he considered any portion of the SA&M or the proposed Barnsley June from Railway could be so worked. The results of his investigations

principle has been proved which would not be necessary for a tunnel of

The Arm which Range Eggs of the K. A. Mussav, published in the Journal of the Irish Railway Record Society, Spring 1954.

were discussed at the Board meeting at the Tontine Hotel, Sheffield, thirteen days later, but they were not recorded in the minutes. It is apparent, however, that Locke aligned himself with those engineers of the day, such as George and Robert Stephenson, who condemned atmospheric railways (George's apt observation was 'Believe me, it's only the stationary-engine-and-rope all over again. The hempen rope failed and I don't believe the rope of wind will do any better') against those who favoured them, such as Vignoles, I. K. Brunel and William Cubitt. Thus was the SA&M saved useless expenditure such as was incurred by the South Devon and London & Croydon Railways on what has been described as an Early-Victorian marvel.

During the actual period of construction of the Woodhead tunnel, which lasted over six years, the number of men employed fluctuated considerably, and although at one period it was said to be as great as 1,500, the very nature of the work prevented a large number being engaged simultaneously. Over the first three years the average was 400 men. Their wages ranged from 4s to 6s per day, which were regarded as very generous in those days. Yet there were times when labour was extremely difficult to recruit. The work was unavoidably slow and dangerous, not only because of the nature of the rock to be excavated and removed, but because of the enormous volumes of water which harassed operations. Some 157 tons of gunpowder were used for blasting and 8 million tons of water were pumped out, whilst the total quantity of excavation was 272,685 cubic yards, about half of this being drawn up the shafts.

The arch of the tunnel took the form of a semi-ellipse, the springing and soffit of the arch being respectively about 10 feet and 18 feet above rail level, and the width of the tunnel 15 feet at rail level. Two open side channels 18 inches wide and 24 inches deep were cut for drainage and throughout the length of the tunnel 25 side arches, or manholes, were built 6 feet into one side (the northerly) at intervals of about 200 yards to facilitate the construction of a second tunnel should this eventually be needed. The tunnel was lined throughout, save at three or four places totalling no more than 230 yards, with 18-inch masonry in pierrepoint. The stone was cut in the immediate vicinity, some of it being taken from the excavated material.

Undoubtedly the Woodhead tunnel was one of the engineering achievements of its time, yet when it was completed, at a cost of 26 lives and some £200,000 it almost escaped the notice of the press in London. December 1845 was, however, a crowded month in other directions, with agitation for the repeal of the Corn Laws and fighting in India against the Sikhs as predominating home and overseas events. But the Sheffield Iris waxed lyrical. 'The tunnel itself is a wondrous triumph of art over nature', it said, 'and may be pronounced the greatest engineering work of the kind which has yet been consummated. So accurately was it driven from the faces under the calculations of the Engineer, that the bores met within a few inches and so direct is the line of perforation that when standing at the eastern entrance we had no difficulty in observing daylight at the other end appearing like a small burning taper or a candlelight in a dark cupboard.... At each end is a

castellated entrance which gives a graceful finish to the unrivalled work.'

Special precautions were taken to ensure against accidents. In April 1845 the SA&M had approached Cooke & Wheatstone about the installation of a telegraph line through the tunnel and the *Manchester Guardian* in its account of the opening, was able to record 'Cooke & Wheatstone's patent magnetic telegraph was being fixed in the tunnel with an index, etc., at the stations at each end, capable of being worked by the station clerks. The wires and other apparatus will be so fixed that if it be deemed desirable hereafter to extend this most rapid mode of communication to the termini of the line at Manchester and Sheffield, the tunnel telegraph can be attached to and form part of the whole'.

In addition, an SA&M pilot engine was stationed at the tunnel and coupled to the front of every train that passed through. On the leading end of the locomotive was fixed an Argand lamp (two of which had been purchased from the Soho Plate Glass Company for £36), embodying a large polished metal disc for reflection so that a powerful beam of light was projected on the track ahead. The pilot engine driver was expected to have his locomotive at the appropriate end of the tunnel at least fifteen minutes before the due arrival of a train. If the train working got out of course he could, after an exchange of signals on the electric telegraph, return to the opposite end. The movement of all trains through the tunnel was preceded by exchanged telegraph signals between the station clerks at Woodhead and Dunford Bridge and, in the event of failure of the pilot engine its driver had to ride through on every train engine until his own was replaced.

A few weeks after its completion there began the Woodhead controversy. This was precipitated by the Statistical Society of Manchester, before which three papers had been read by John Roberton, a surgeon and President of the Society, Robert Rawlinson, Engineer to the Bridgewater Trust, and Edwin Chadwick, barrister-at-law and Secretary to the Poor Law Commissioners. The papers were printed in a 55-page pamphlet¹ with a preface written by Chadwick, entitled 'On the Demoralization and Injuries occasioned by the want of proper regulations of labourers engaged in the construction and working of railways'. Together they formed a startling indictment of the sordid conditions under which railway navvies sometimes worked. But Roberton's included a return of the fatal accidents and injuries sustained by the men engaged on the Woodhead tunnel and a lengthy eyewitness account, addressed to Chadwick, of the working and living conditions there.

The Manchester Guardian first drew public attention to these papers in its issue of 24th January, and on 28th February and 7th March carried further editorials headed 'Moral and Physical Evils in connection with Railway Works'.

Roberton had visited the tunnel in June 1845 with W. J. Wilson, one of

¹ Printed by Simms & Dinham of Exchange Street, Manchester, and by Charles Knight & Co and Blackburn & Pardon of London.

the surgeons of the Manchester Royal Infirmary. 'Here we found the work still in progress', he wrote, 'and hundreds of men engaged on it whose huts form a scattered encampment extending between three and four miles in length over the bleak and hilly moor under which the tunnel is driven. . . . The huts are a curiosity. They are mostly of stones without mortar, the roof of thatch or flags, erected by the men for their own temporary use. . . . In some instances as many as fourteen or fifteen men, we were told, lodged in the same hut; and this at best containing two apartments, an outer and an inner, the former alone having a fireplace. Many of the huts were filthy dens, while some were white-washed and more cleanly; the difference no doubt depending on the turn and character of the inmates. . . .'

Encountering a man connected with the works whom they both knew, Roberton and his companion obtained further information which led them to institute a more particular enquiry into the health and morals of the workmen. 'The hands were excessively drunken and dissolute', alleged their informant. 'A man would lend his wife for a gallon of beer.... A large proportion of both sexes, more than half, laboured under some form of syphilitic disease and, in a word, it was difficult to conceive of a set of people

more thoroughly deprayed, degraded and reckless.'

Roberton was told that there had been thirty-two fatal accidents within and on the tunnel since the work had commenced. Serious injuries included 104 fractures, 23 of them compound, and 140 other severe cases. There were also some 400 cases of minor accidents, but 'many of these were occasioned by drinking and fighting'. A large proportion of the accidents was due to the men going to work more or less in a state of intoxication. Roberton next asked if there had been any religious instruction provided and received a negative answer. The informant added, however, that there was a school at Woodhead, supported by the men in the vicinity, for their children; that he had heard of the Methodists attempting to hold a prayer meeting there with little success; and that certain clergymen sometimes used to visit the men, but not recently.

'Having been painfully impressed with what I witnessed and otherwise learned concerning these poor people', wrote Roberton, 'I told my tale, on my return... to the Superintendent of the Manchester and Salford Town Mission, who volunteered to pay a visit to the tunnel the following Sunday, and to give me the results of his inquiries and observations. By him I was informed that the labourers were indeed in a demoralized condition and "No wonder", said he, "for the work goes on by night as well as by day, and on Sunday the same as other days, and such has been the case from the commencement". On the Sunday following, the same worthy person again went thither, entering the huts and conversing with the workmen. His first impressions were now confirmed and strengthened. He assured me that the workmen and their families were in a most brutish state; but as to the men lending their wives to each other, he remarked that many of the women in the huts were not wives but "tally-women", i.e. women who had followed the men as their mistresses'.

Roberton went on to comment upon a subsequent visit he had made. He noted that the wages were very high, joiners getting 5s and masons 6s for a ten-hour day; miners received from 4s to 5s for eight hours. The men were paid once in nine weeks, at a public house. The contractors held a fund into which each workman, married or single, paid $1\frac{1}{2}d$ from every day's wages. From the money thus subscribed was paid the surgeon, the part support of the schoolmaster (for those children who attended the school a small weekly sum was paid as well) and an allowance of 8s a week to every man on the sick list.

'It is, perhaps, to be expected', wrote Roberton, 'that a crowd of people, encamped on a desert moor, should have to pay rather high for their provisions. These poor people, however, pay an inordinate price for every article.' The right of selling provisions was let out to a contractor. As a result, Roberton reported 'For flour they paid 25 8d and 25 10d per stone of fourteen pounds; for tub-butter (of very indifferent colour) 15 1d; for brown sugar (the worst sample) 8d; treacle (commonest) 5d; bacon and butcher's meat, 8d; but the most surprising thing was the price of potatoes, namely, 15 2d the score. Thinking, that as the highest price in Manchester was only eightpence, they were imposing on my credulity, I enquired at several huts, widely apart, and received the same answer, 15 2d per score. The beer, at the public houses, represented as very inferior, is sold at 6d per quart'.

Roberton ended his letter to Chadwick with the words 'During the three months that the missionary daily visited the huts and held hundreds of conversations, sometimes discussions, with the inmates, he was not only never insulted, but in no instance was he repelled or treated with rudeness; and his instructions and admonitions were received as favourably, he has assured me, as would have been the case among the lower classes of Manchester and Salford, the subjects of his ordinary visits'. By way of postscript he added that Bibles, Testaments and Prayer Books, amounting to 128 copies, had been bought, at somewhat reduced prices, from the missionary.

Chadwick's paper dealt at great length in general terms with the effects of past expenditure of capital on labour in the construction of railways; with observations on the principles of legislation and jurisprudence applicable to the public protection by prevention of fatal accidents; and with the better regulation of labourers engaged in dangerous works. But he opened his dissertation with an inapt comparison concerning Woodhead. He said: 'Thirty-two killed out of such a body of labourers, and one hundred and forty wounded, besides the sick, nearly equal the proportionate casualties of a campaign or a severe battle! The losses in this one work may be stated as more than 3 per cent of killed, and 14 per cent wounded. The deaths (according to the official returns) in the four battles, Talavera, Salamanca, Vittoria, and Waterloo, were only 2·11 per cent of privates; and in the last forty-one months of the Peninsular War the mortality of privates in battle was 4·2 per cent, of disease 11·9 per cent'.

The three papers provoked an unequivocal and hard hitting reply from Thomas Nicholson. For three and a half years, during the sinking of the vertical shafts and the driving of the horizontal driftways, he had superintended the work on the tunnel. Then, from 1843, he had executed 3,290 yards of the tunnel as a contractor. Formerly an ill-paid agricultural labourer, Nicholson had spent nearly 32 years in the construction of canals and railways. He did not mince his words in the 26-page pamphlet he had now published.1

He seized upon Chadwick's comparison. 'What these four battles may have to do with the Sheffield2 tunnel I am at a loss to imagine; but I believe 100,000 men were killed at Waterloo in three days. Can the Summit Tunnel have done anything like this?', he asked. 'Still in order to make the case appear as bad as possible against the Sheffield tunnel, they have compared it with those four battles, and actually stated the number killed to be above one-fifth more than what is really the case; the number stated being 32 and the true number only 26. So much for the information of their intelligent surgeon.'

Nicholson demonstrated that most of the fatal accidents had occurred because of the men's own carelessness and disobedience of the instructions of their employers. He stoutly denied that any had been killed at work through being intoxicated. Eight men died from natural causes. His pamphlet contained a complete list of those killed, the date and circumstances of the accidents, and the coroner's verdict - 'accidental death' in every instance. Two typical cases may be cited. James Scholes, a miner, had with several others, prepared and lighted four or five blasts. Then they retired about 50 yards, behind a barrier of stones. When Scholes heard the blasts going off he put his head out and was struck on the temple by a flying stone. He died two days later. 'If a scientific gentleman had been there, would he have kept his head in?', asked Nicholson. Thomas Lee, a hooker-on at No. 4 shaft was involved in the other. He was waiting to unhook a descending tub when a stone weighing some fourteen pounds fell from the ascending tub. Hitting him on the head, he was killed instantly. Lee was acting against laid down rules, for he should not have entered the shaft until the descending tub had reached the bottom and the ascending one had been safely landed at the top.

Of those severely injured Nicholson said only five had not so far been able to resume work. Of the minor cases of injury there were over 400, chiefly consisting of trapped fingers and amputation of finger nails. 'The talented surgeon', observed Nicholson sarcastically, 'has included a few men with scratched faces, some of whom probably now and then received them from their wives.'

As Nicholson was dissatisfied with the small shops at the west end of the tunnel, and at other places, he set up a provision shop himself when he took over the contract. He took great pains to show that Roberton's allegations regarding prices were gross falsehoods. He quoted the names of the suppliers

Manchester.

¹ Strictures on a pamphlet published at the request of the Manchester Statistical Society. Printed by J. Gadsby, Newall's Buildings, Market Street, 1846. Price 6d.

² The SA&M was often referred to as the Sheffield, and sometimes as the Sheffield &

and the prices charged, challenging the Statistical Society, 'as a contractor's evidence may not be relied upon', to ascertain themselves from the former whether the quality was of the best or not. He recorded that sugar was first sold at 8d a pound, but the consumption rose so much because some of the men hawked it at different places at 9d a pound to get more beer, that the price was raised to 9d.

Nicholson had much more to say, and no part of the papers escaped his vigorous counter attack. As to the charges of demoralization he was completely realistic and minced no words. 'Does the writer . . . suppose then, that these men come to the wilderness of Woodhead, on the mountains of the Sheffield and Manchester Railway, to get religious instruction and education?' he asked. '... You may as well try to stem the tide, as to cultivate a number of men so collected; because one third of these men may leave the works any pay, and a fresh set take their places. . . . Now I dare venture to say that never such a thing happened on these works as a man selling his wife for a gallon of beer; but I can tell you what has happened. I have paid miners and masons from £8 to £16 a pay; the moment they got it, they have gone down to the large towns in Yorkshire, Lancashire and Cheshire, and what do you think they have done with their money? Spent it in the filthy dens in these large towns. Aye, in the back streets amongst the girls. These men have come back again impregnated with a disease, which has cost the club more money than all the sickness besides.

'They speak of the hut of the poor labourer. There is five hundred per cent more filth and debauchery in those places in Manchester than you can find in the worst hut of those which have been magnified so much at Woodhead. Yes, and all under the protection of the corporation, magistrates, and police, and even under the vigilant eye of the Statistical Society. Let the members of the Statistical Society clear the cobwebs of their own houses, skim the beam from immediately under their own eyes, before they send their missionary to discover the mote in another man's'.

Nicholson concluded his pamphlet with the strong recommendation that Chadwick should confine his talents and abilities to the profession he understood and to refrain from interfering with engineers and contractors of tunnels and other works.

But the strong Select Committee of the House of Commons on Railway Labourers which Peel's Government agreed to establish on 30th April 1846 thought otherwise. Although the mover for the Committee had quoted instances in Ireland, the Statistical Society's papers were frequently referred to in the evidence before the Committee, which included George Hudson in its ranks. And amongst the 31 witnesses which the Committee examined over two months were Chadwick, Rawlinson, and three who had been associated with the Woodhead tunnel, W. A. Purdon (one of the engineering staff), H. L. Pomfret (a surgeon who was retained for the workmen's sick club), and Thomas Eaton (a navvy who had been employed upon the works).

The Report, dated 28th July, declared in favour of employer's liability and of compulsory weekly payment in cash, condemned truck, and strongly

recommended that navvies should not be engaged upon works until adequate lodging accommodation had been provided. But when it was published the outcry had died down and, strangely, no debate upon it took place. Nevertheless, the authors of the Report performed a humanitarian service by ventilating the subject and had paved the way for reform. Thereafter, the lot of the railway labourer gradually improved.¹

Besides the Woodhead tunnel there were the short Audenshaw Road (formerly North Street, tunnel between Fairfield and Guide Bridge, the Hattersley Nos. 1 East, and 2 West) between Newton and Mottram, the Thurgoland (sometimes called the Huthwaite tunnel between Penistone and Wortley, and the Bridgehouses (also known as the Pye Bank tunnel just outside the terminal in Sheffield. All of them were less than a quarter of a mile in length.²

In recent years attention has been drawn to the fact that the driving of Thurgoland tunnel was not accurately undertaken. The line at this place is on an overall left-hand curve of 60 chains on a falling grade of 1 in 131, viewed towards Sheffield. The bore, however, is 'drunken', in that it forms a series of straight drives with appreciable kinks so as to produce overall the curve just mentioned, although the actual radii of the tracks vary from 100 to 20 chains. The rail levels of the two tracks were made to differ in order to obtain maximum clearance, which was sustained only at the expense of a narrowed six foot way.³

Of the numerous bridges and viaducts built by the SA&M two were outstanding. The first was the Etherow viaduct at Mottram, a graceful structure of three laminated timber arches designed by Locke, the actual plans being drawn up by Jee. The type of construction employed owes its origin to the favourable impression gained by two of the Directors, George Sidebottom and James Rhodes, who, accompanied by Vignoles, had inspected similar structures on the Newcastle & North Shields Railway in 1839. The first stone was laid by John Chapman on 5th March 1842 and the entire structure completed and brought into use on Christmas Eve of that year, a remarkable achievement. The viaduct absorbed 186,000 cubic feet of stone, brought from the neighbouring Tintwistle quarries, and 41,000 cubic feet of timber. It measured 506 feet in length and 136 feet in height from foundations to the top.

The other viaduct bestrode Dinting Vale with five main timber arches, each 125 feet span, and eleven approach brick arches each of 50 feet span, the latter being built on a curve of 40 chains radius. The whole of the large piers, wings, outside spandrels and parapets were of local ashlar stone, of which

4 Committee of Management 24th February 1841.

¹ Economic and Social Investigations in Manchester 1833-1933 by T. S. Ashton. Parish and Empire: Studies and Sketches by Jack Simmons.

² Bridgehouses tunnel was opened out in 1909 and the two Hattersley tunnels between 1928 and 1931.

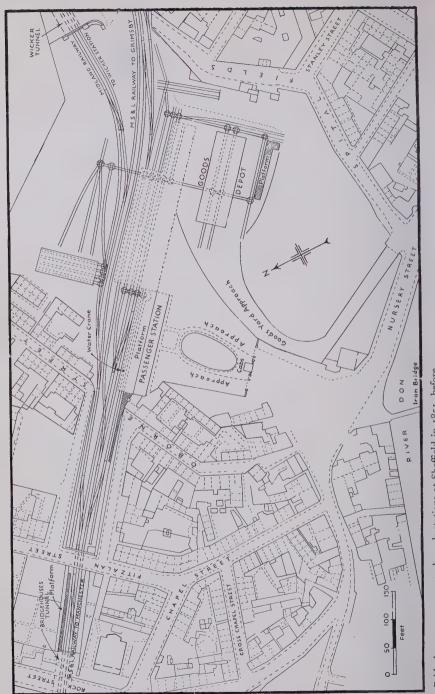
³ Paper by the late J. I. Campbell, Civil Engineer. British Railways Eastern Region, to the Assistant Railway Engineer's Association at Sheffield, 22nd April 1948.



Etherow viaduct. The last three vehicles on the train are roofless thirds.



Dinting Vale viaduct.



Bridgehouses passenger and goods stations at Sheffield in 1851, before the opening of Victoria station.

386,179 cubic feet were absorbed. Total length of the viaduct was 1,452 feet, its width being 24 feet, and its greatest height from the brook course to the rails being about 125 feet. 1 It was commenced early in 1843 and brought into public use on 8th August 1844 at a total cost of £35,250. The five large arches were of Memel timber, of which 40,477 cubic feet were required. Each consisted of four main ribs made up of 3-inch thick planking laid longitudinally and fastened together with oak trenails at intervals of 4 feet. The ribs were 4 feet 6 inches deep and 1 foot 6 inches wide, firmly staved by diagonal and cross braces screwed up tight by 2-inch diameter wrought iron rods passing through and secured by nuts on the outside. The uprights and diagonals in the spandrels were also stayed by iron rods and were morticed into the longitudinal beams carrying the cross joisting. To resist any tendency of the arch to rise in the haunches when the weight of a train reached the centre, the longitudinal beams were fastened down upon the piers by iron bolts let 12 feet into the solid stonework. The cross joists were placed 5 feet apart, centre to centre, and bolted to the longitudinal beams beneath. This system of bent timber arches and trussing was identical with that successfully employed by J. & B. Green of Newcastle on the Newcastle & North Shields Railway.

Only the terminal stations at Store Street in Manchester and at Bridge-houses in Sheffield were of any size. Most of the intermediate stations were temporary structures at the outset, and were gradually replaced by permanent buildings. The platforms at all of them had to be lengthened early in 1842, and at the beginning of 1844 Ashton and Dukinfield stations were

given the refinement of gas lighting.

Store Street station, shared with the Manchester & Birmingham Railway, consisted simply of single arrival and departure platforms, the SA&M offices being located at the Sheffield end of the latter, as shown in the plan on page 55. Its exterior is also shown. The name 'London Road' came into use with the advent of the MS&L, but for many years the station was also known as

'Bank Top' and appeared as such in at least one local guide.²

Bridgehouses station, which was always regarded as a temporary expedient, contained but one platform. The plan opposite depicts the layout there after the railway had reached Gainsborough and Grimsby, but before the opening of Sheffield Victoria station in the late summer of 1851, when Bridgehouses became a goods depot. The ½-mile connecting line to the Wicker station of the Midland Railway will be observed on the right; this was opened on 1st January 1847, but so far as is known was only used for the exchange of a small amount of freight traffic. It is believed that the short platform located between Fitzalan and Rock Streets was brought into use when, or soon after, the line got beyond Sheffield. It may have functioned as

¹ In the author's booklet *The First Railway between Manchester and Sheffield* of 1945 the main spans, length and height, which were obtained from official LNER sources, were given as 130 ft, 1,455 ft and 121 ft respectively. In this work the details given are based upon Alfred Jee's paper to the Institution of Civil Engineers, recorded in Vol. 5 of Proceedings, 1846.

²Rodgers' Sheffield Railway and Commercial Guide 1st November 1851, page 22.



SA&M stone sleeper.

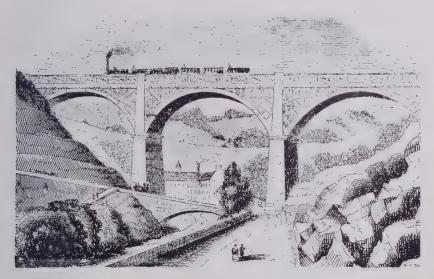
a ticket platform, but more probably was used by some through trains between Manchester and Gainsborough and Grimsby, thus avoiding the reversals entailed in entering the terminal.

At both places the profusion of turntables was a typical feature of the times. These ranged from 10 or 11 feet to 32 feet in diameter, the smaller being used for the transfer of rolling stock between roads, and the larger for turning locomotives. The SA&M usually obtained them from Ellis & Noton or one Captain Handcock, who specialized in this kind of equipment, and they were not altogether inexpensive items. Three for Broadbottom in 1843 cost nearly £80 each for provision and installation. Points and crossings, also often an Ellis & Noton product, were far cheaper by comparison; 50 sets bought in 1844 cost £15 145 od per set.

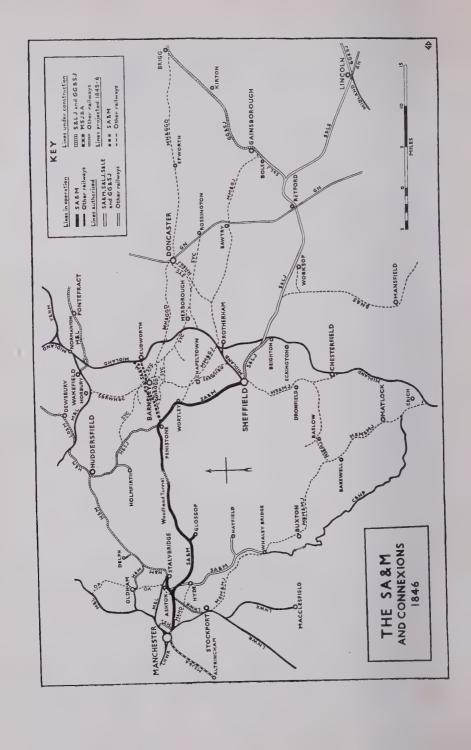
The first rails of the SA&M, mentioned in Chapter III, were of wrought iron, 16 feet long and weighing 75 lbs per yard. They rested in keyed chairs fastened to stone sleepers (illustrated above) measuring roughly 22 inches long by 21 inches wide by 10 inches deep. The keys used were either 6 or 4 inches long and cost £5 105 od and £4 55 od per 1,000 respectively. A small amount of flat-bottomed track was laid for sidings, this weighing 25 lbs per yard.

During the first two or three years of operation the SA&M possessed very few goods depots, the Directors using their slender resources primarily to develop coal traffic. Stations for handling coal were brought into use during

the first half of 1842 at Ardwick, Godley and Newton, the two last-named getting their goods depots in 1844. One of the first goods depots was that built at Broadbottom (later Mottram) in 1843, this costing a mere £255; on the other hand the structure erected at Hadfield two years later cost £895. The most awkward to work was that at Manchester, where owing to the two levels a hoist and engine to operate it had to be installed at an expense of £3,074. Early in 1845 Gretton was ordered to equip the goods shed at Newton (which handled cotton traffic, amongst other things) with gas illumination, and to prohibit most strictly the use of lighted candles!



Another early illustration of Etherow viaduct. Note the head and second guards on the train.



The Stage is set for Consolidation

The year 1845 marked the beginning of the period known as the Railway Mania. The financial depression of the early 'forties had vanished and railways were now an attractive medium for public speculation on the Stock Exchange. At the end of 1844 five of the biggest companies – the Great Western (230¼ miles), the Midland (178½ miles), the London & Birmingham (128 miles), the Grand Junction (102¾ miles) and the London & South Western (92¾ miles) were paying dividends ranging from 6% to 10%.¹ Hitherto they and the smaller fry had enjoyed enough elbow room to expand without unduly harming each other's interests and, in the main, they had managed to maintain a peaceful co-existence. Now they were being menaced on all sides by new railway schemes. They had no alternative but to support and, in many cases, ultimately absorb, those which could be regarded as feeders, or to promote counter schemes against those which were directly competitive. The process of consolidation and amalgamation, following the fashion set by the Midland in 1844, was considerably accelerated.

Apart from the events already related, 1845 was the most momentous year in the life of the SA&M. After their failure to lease their undertaking to the Midland and Manchester & Birmingham, the Directors came to the decision that their best interests would be served by expansion through

amalgamation. They lost no time in implementing this policy.

As already recounted, they had secured on 15th April their shareholders' ratification of the Bills for the Manchester South Junction & Altrincham, Barnsley Junction and Sheffield & Lincolnshire Junction Railways. They also got approval for their proposal to lease the projected Huddersfield & Manchester Railway & Canal Company. Amongst new lines now contemplated were branches from Wortley through Thorncliffe to Chapeltown (single line costing £50,000), and from Dukinfield to New Mills, thence to a junction with the Buxton line of the Manchester & Birmingham Railway, estimated at £200,000. An extension of the Barnsley Junction to Pontefract, there to join the Wakefield, Pontefract & Goole Railway, a double-line venture costing half a million, was also envisaged. Looking south-eastwards, the Board delegated three of its members to meet the Committee of the projected Boston, Newark & Sheffield Railway. And looking north-eastwards, a deputation of SA&M Directors set out to confer with the Provisional Committee of the Hull & Barnsley Junction Railway.

The Board meeting at Dunford Bridge on 5th September was attended by Lord Worsley and some of his colleagues of the Sheffield & Lincolnshire

¹ The Railway Mania and its Aftermath by H. G. Lewin (1936).

Junction and Great Grimsby & Sheffield Junction Railways which, when completed would, together with the SA&M, provide a continuous line of railway from Manchester to the North Sea. Ostensibly they had come to seek the support of the SA&M in opposing the current plans of a line which had bestowed upon itself one of the longest titles ever to be used by a British railway, the Sheffield, Rotherham, Barnsley, Wakefield, Huddersfield & Goole. The desired support was readily forthcoming, but it was at this meeting that the firm resolution to amalgamate the three undertakings was agreed.

This was confirmed at a meeting held by deputations which assembled at Normanton six days later, on 11th September 1845, presided over by John Parker and constituted as follows:

The parties presumed that the Grimsby Dock Company would be prepared to be amalgamated with the GG&SJ and proposed to embrace that concern in the scheme. They also recommended the inclusion of the East Lincolnshire Railway (projected from Grimsby to Boston) if it obtained its Act in the next Session and concurred. Until the Amalgamation Act was obtained each partner would conduct its own affairs, but meantime the three Chairmen would form a committee with powers to call the deputations together when they saw fit.

First news of the intended fusion seems to have appeared in the *Railway Register*. Lord Worsley and the Secretary of the GG&SJ, Humfrey, in a letter dated 15th September, indignantly repudiated an earlier report about the deficiency of railways in existence or in contemplation in North Lincolnshire and added that preliminary arrangements had been made to amalgamate the SA&M, the S&LJ and the GG&SJ. The first official public announcement was made by John Parker at the SA&M half-yearly meeting held on 24th September at the company's office at Store Street station, when he promised that the shareholders concerned would duly be given an opportunity to ratify the scheme. The Chairman also referred with satisfaction to the results of the last Session, during which five of seven Bills contributory to the traffic of the SA&M had been passed. These were for the Great Grimsby & Sheffield Junction, the Great Grimsby Docks, the Manchester South Junction & Altrincham, the Huddersfield & Manchester Railway & Canal Company, and the Huddersfield & Sheffield Junction. The sixth Bill, that for the Shef-

field & Lincolnshire Junction, had been held up through lack of time. Only the Bill for the Barnsley Junction, now amalgamated with the SA&M, had been unsuccessful, and this the Board intended to pursue.

On the previous day, 23rd September, Parker and Randall had met the Managing Committee of the Hull & Barnsley Junction Railway. As a result, it was agreed the contemplated north-eastward thrust of the SA&M from Penistone, by means of the Barnsley Junction line, should stop short of the Midland and that the extension thence to Pontefract be dropped. In its place the H&BJ would proceed with their line from or near Howden or some other point on the Hull & Selby Railway to meet the Barnsley Junction at or near Monk Bretton. The H&BJ promised to extend their share capital to £700,000, of which one-fifth would be allotted to the SA&M. Locke, Hartley and Jee were named as the Consulting Engineers and Oldham as the Acting Engineer. The agreement bore the signatures of John Parker and William Lowthrop, who was the Chairman of the H&BJ Managing Committee.

The next gathering of the allied companies, at Normanton once more on 8th October, was devoted entirely to schemes of expansion. Discussions ranged over a Sheffield, West Riding & Midland project, terms for acquiring the lease of the Peak Forest Canal and extensions of the GG&SJ from Lincoln to Horncastle and from Grimsby to Cleethorpes. It was decided unanimously to oppose a scheme for a Lincoln & Grimsby 'direct' line. Deputations from the Sheffield, Bakewell & West Midland and from the Boston, Newark & Sheffield proposed undertakings were received. The latter sought an alliance, but mutually satisfactory terms could not be agreed. And Jee, who since the beginning of 1845 had been instructed to attend all Board meetings, recommended that the Sheffield, Wortley, Silkstone & Wakefield project was worth examination.

A deputation from the Committee of the last named attended the next SA&M Board meeting at Dunford Bridge on 15th October, when it was agreed that a lease of the SWS&W would be taken for ten years from the completion of the line at a rental of $4\frac{1}{2}\%$ on the cost, with an equal division on profits beyond that rate. Other provisions included an option to acquire the SWS&W at any time within ten years at par, the shares to be paid up in full, and the appointment of four SA&M Directors (Chapman, Appleby, Randall, and Blake) to the undertaking's Committee of Management, it being further agreed that half the Directors named in the Act should be appointed by the lessees.

On the same day a letter to John Parker, enclosing the prospectus of the South Yorkshire Coal Railway and offering 5,000 shares and a directorship, was considered; it was decided to respond by nominating Parker.

The allies conferred twice more before the close of 1845, at the Tontine Hotel, Sheffield, and at Dunford Bridge, on 8th and 11th November. On both occasions it was a 'full house', for not only were the Grimsby Docks and the Sheffield & Lincolnshire Extension Railway (a newly formed offspring of the Sheffield & Lincolnshire Junction) represented, but also others came

from the Huddersfield & Manchester Railway & Canal Company which, it was unanimously agreed, should be added to the confederacy.

On 3rd December the meeting of SA&M shareholders which Parker had promised the previous September, and at which the proposed amalgamation was ratified, was held at the Cutler's Hall, Sheffield. But apart from the magnitude of the amalgamation itself, there were several other resolutions passed which epitomized the grip the Railway Mania now had upon the country. Well over three-quarters of a million was to be raised for the following railway projects:

In addition, the SA&M was to seek legislative sanction to build branches from the main line to Dukinfield (an eastern spur), to Whaley Bridge (with a spur to Hayfield), to Worsborough (off the Barnsley Junction line) and to Chapeltown; to acquire the Glossop branch from the Duke of Norfolk; and to secure the Macclesfield as well as the Peak Forest Canal.

It is appropriate at this juncture to bring George Hudson on to the stage. There is, rather strangely, no mention in Richard S. Lambert's classic biography *The Railway King* of Hudson's relations with the group of railways soon destined to become the Manchester, Sheffield & Lincolnshire system. Perhaps it is because all the evidence in the records of the MS&L's predecessors indicates that they had been consistently friendly. Early in 1846, for instance, just before the SA&M carried out the organizational changes referred to later in this chapter, he personally facilitated an investigation made by the company's Secretary of the Midland's organization at Derby.

At the time the Hull & Barnsley Junction project was under way Hudson had bought off a threatened invasion of Hull by the Manchester & Leeds by offering to that railway a half share in the lease he had taken of the Hull & Selby. He would have none of the H&BJ. It did not survive Standing Orders and when in August 1846, the SA&M received an advice from $58\frac{1}{2}$ Whitefriar Gate, Hull, that it had been re-registered and was seeking support, the Secretary was instructed to reply that a definite answer could not be given at present. Concurrently, it was resolved that the Chairman and three of the Directors should meet the Midland to discuss the development of the Barnsley district for, it was recorded, the SA&M was 'most anxious to maintain the present cordial relationship with the Midland'.

The Boston, Newark & Sheffield also failed to comply with Standing Orders. On 13th April 1846 one of its leading advocates, Edward Burnell, wrote in the following terms to the SA&M Chairman:

'An interview has taken place between one or two of our Directors and

Hudson, the object of which was to ascertain whether the Midland are disposed to meet our Board with a view to effecting some arrangement between us.

Nothing specific was mentioned, but the King received our people very courteously and impressed them with favourable anticipations. A meeting is fixed for the 17th instant, when some offer will probably be made, and it may probably involve the surrender of our entire project into the hands of the Midland.

'As the Sheffield & Manchester Company hold some of our Shares, we should be glad to know whether your people would be disposed to assist us at a negotiation...

For my own part I object to take a step which will consolidate the Midland monopoly, and am convinced, on public grounds, that the only legitimate connexion which our line can form is with the Sheffield & Manchester; but I think our Board is disposed in the present awfully depressed state of scrip property to make any terms which may save the pockets of the shareholders; and if they cannot obtain something better, would give up everything to the Midland on payment of our expenses.

'I do not know whether your Company take a sufficient interest in any possible future connexion with our district to induce them to espouse our cause with the Midland.

'The present appears to me to be a favourable opportunity for some mutual understanding between yourselves and Hudson; and if any strong feeling was shewn by the Sheffield & Manchester Company on our behalf, I think it might be conducive to our interests as well as your own....

Neither Salmond, Gill¹ or myself will attend the deputation to the King.' Further support for the BN&S, which contemplated a line southwards from Boston to Spalding, would not only have created difficulties with Hudson, but would doubtless have brought the SA&M into conflict territorially with those who were then promoting the trunk line, soon to be known as the Great Northern, from London to York. The SA&M accordingly took avoiding action by asking their Secretary to inform his opposite number on the BN&S that his company would not stand in the way of any arrangement which they might make with the Midland.

The Nottingham, Mansfield & Midland Junction and the Sheffield, Wortley, Silkstone & Wakefield projects were abandoned, the latter costing the SA&M nearly £5.300, largely in legal and engineering expenses. The East Lincolnshire and the South Yorkshire schemes, the latter redesigned to serve the district between Barnsley and Doncaster, and supported by the Great Northern as well as the SA&M, failed to secure Parliamentary sanction.

It was a different story in the case of the Huddersfield & Manchester Railway & Canal Company, mentioned earlier. This railway had been

¹ James Saimond and Robert Gill were two of his colleagues on the BN&S Provisional Committee, the former being Chairman.

authorized in 1845 to build a line via Huddersfield from the SA&M at Stalybridge to the Manchester & Leeds at Cooper Bridge, and at one time was on the verge of amalgamation with the Leeds, Dewsbury & Manchester and the Leeds & Thirsk Railways. Its Engineer was Alfred Jee and the contractor for its Standedge tunnel (the completion of which delayed the throughout opening of the line until 1849, two years after it had entered the London & North Western fold) was Thomas Nicholson. For a period two Directors of the SA&M and its allies, Cornelius Randall and Dr. G. C. Holland, sat on its Board.

When the H&M shareholders met on 28th February 1846 to ratify the merger with the SA&M bloc, T. F. Bennett of Liverpool took the role Dr Holland had assumed when the SA&M had been so nearly absorbed by the Midland and Manchester & Birmingham Railways. In brief, he argued for independence from a group having a capital of 5 millions, much of which had not yet been raised. When the time came to vote on the measure the H&M shareholders repudiated it by 4,088 to 3,475.

Another tie which had wilted was the alliance with the Huddersfield & Sheffield Junction Railway. Incorporated in 1845, its line from Penistone to Huddersfield was not completed until 1850, four years after it had been absorbed by the Manchester & Leeds, despite the opposition of the SA&M. In the 1846 Session it had promoted a branch from Denby Dale to Darfield on the Midland, which the SA&M had been instrumental in getting rejected.

The SA&M were also successful in overcoming an incursion towards Dukinfield which was meditated by the Manchester, Buxton, Matlock & Midlands Junction Railway. This ponderously entitled line had been projected from Cheadle on the Manchester & Birmingham to Ambergate on the Midland. It was heavily backed financially by the two companies it connected and had been inspired by George Hudson to give the Midland entry into Manchester.

Deputations from the SA&M and MBM&MJ met early in 1846 when, amongst other things, the latter promised not to oppose the Whaley Bridge branch and undertook to allot to the SA&M £50,000 of its stock. In return the SA&M withdrew all opposition to the MBM&MJ main line. At a special meeting of shareholders, held at the SA&M offices on 10th June 1846 to approve the company's Parliamentary plans, the contribution of £50,000 towards the MBM&MJ was endorsed and it was agreed to appoint one Director to its Board. But with the formation of the London & North Western Railway on the day the MBM&MJ was incorporated, 15th July 1846, a radical change took place in the fortunes of the latter. The LNWR, a combination of the Grand Junction and London & Birmingham with the Manchester & Birmingham, now wanted nothing to be done, for it possessed a route to Manchester. The MBM&MJ was thus fated to shrink to a line of 11½ miles between Ambergate and Rowsley, which was eventually opened in 1849 and worked by the Midland.

All things considered, the SA&M and its Lincolnshire allies fared well in

the 1846 Session, despite the secession of the Huddersfield & Manchester Railway & Canal Company. The merger received the Royal Assent on 27th July and would become a fait accompli on 1st January 1847, when the title Manchester, Sheffield & Lincolnshire Railway was to be assumed. The Sheffield & Lincolnshire Junction had got its Act. The SA&M lines to Whaley Bridge and Hayfield and the spur to Dukinfield had been authorized. Sanction for the purchase of the Glossop branch from the Duke of Norfolk and of the Peak Forest and Macclesfield Canals, together with powers to provide an enlarged station at Sheffield, had been secured. Several projects inimical to the welfare of the future MS&L had been successfully opposed. These included the Denby Dale - Darfield line already mentioned, the Manchester & Hyde Direct and, most harmful of all, the Manchester, Huddersfield & Great Grimsby Direct and the Manchester, Midland & Grimsby Junction, which had been planned to run from Penistone via Doncaster to Brigg and from Wortley via Rotherham to Gainsborough respectively.

In addition to the Woodhead controversy and the Parliamentary successes, the last year of the SA&M witnessed some notable changes in organization and direction. On 1st January 1846 the position of Clerk & Secretary was enhanced and James Meadows, formerly Principal Agent of the Peak Forest and Ashton Canals, was appointed to succeed John Platford at a salary of £800 per annum. Platford concurrently became Traffic Manager, for which he was paid £350 per annum. Rowley, the Bookkeeper, left the company early in the year; there is no indication in the records extant that a successor was appointed in his place and it is reasonable to assume that Meadows took over his responsibilities for the few months the SA&M was to retain its separate identity.

To define the organization clearly, the following resolution was passed at the Board meeting of the 4th March, held at Morley's Hotel, Trafalgar Square, when the Directors were in London on legislative business:

(1) That Mr Meadows be called the Secretary and his department the Secretary's

Department.

(2) That Mr Platford be called the Goods Manager and his department the Goods Department and that he be given immediate management of that

department and its subordinate officers and staff.

(3) That Mr Gretton be called the Superintendent and his department the Passenger Department and that he be given immediate management of that department which shall include all relating to Passengers and Parcels, the stations, and the clerks and servants on the line of railway.

It was laid down that Platford and Gretton were to report to Meadows and, through him, to the Board.

The next changes affected the Engineering Department. Locke's primary work was now done and his invaluable association with the SA&M ended. Iee deservedly became Engineer-in-Chief in his place on 15th April at a

¹ Erroneously shown as 11th January, owing to a typographical mistake, on page 37 of the author's The First Railway between Manchester and Sheffield.

salary of £1,000 a year, this to include expenses of attending meetings and inspecting works. The post was still part-time, for it was recorded that he was expected to spend one-third of the year on the company's business. Jee prepared his terms of engagement and they were accepted *in toto* by the Board. At the end of July two Resident Engineers under Jee were appointed. John Bass took charge of the completed main line and branches, and George Simpson was made responsible for the authorized Whaley Bridge, Hayfield and Dukinfield branches. Their salaries were £400 and £300 per annum respectively.

On 28th October the Directors received with regret the resignation of their Goods Manager. Platford had served the company faithfully and was one of its oldest officers, but ill-health forced him to retire. One of his last unusual assignments had been to visit every station on the Grand Junction and London & Birmingham Railways in search of 13 missing SA&M wagons! He was succeeded by C. W. Eborall, who was given a salary of £400 a year.

There were three changes on the Board during 1846. John Parker, the able Chairman, accepted office in the administration of the new Prime Minister, Lord John Russell, and resigned early in July. Fortunately for the SA&M they possessed an equally able Deputy Chairman, and Chapman was elected to succeed Parker on the 29th of the same month. Earlier in the year, at the half-yearly meeting of the shareholders on 31st March, Perry was a retiring Director by ballot; he was unsuccessful in getting himself re-elected, Charles Turner taking his place. Appleby resigned on 19th August, but his vacancy was not filled because of the pending amalgamation.

It was decided in January to double the remainder of the single track of the Stalybridge branch, namely between Ashton¹ and Stalybridge. In that month Henry Worth of Sheffield was given a contract for station buildings at Fairfield, Hadfield, Penistone and Oughty Bridge for the modest sum of £94 each, and Chadwick & France got an order for similar work at Newton, Mottram and Wadsley Bridge stations at £145 175 od apiece. The same firm took in hand the construction of a new station at Dinting, at the point of junction of the Glossop branch with the main line, at a cost of £496 155 od. Two new SA&M stations were opened to the public on 1st May, both on the main line. One was named Dog Lane, close by the site of the old Dukinfield (Dog Lane) station. The other was at Hazlehead, as a result of a petition from the local inhabitants, and in August arrangements were made for an omnibus service to be operated thence to and from Huddersfield.

On 28th October Miller & Blackie's tender of £238,515 18s 8d for the construction of the Whaley Bridge and Hayfield branches, the former to be double track and the latter single, was accepted. The sum included an amount of £2,150 for maintenance of the lines for 12 months after completion. On 18th December, according to the Railway Record, the first sod was cut by F. D. P. Ashley, 'with the usual forenoon solemnities and postprandial festivities'.

¹ Later known as Ashton Park Parade, first referred to as such in Finance Committee Minutes of 30th July 1862,

The final foregathering of the SA&M Board took place in the company's offices on 30th December. One of its last resolutions was to accept William Scholefield's tender for 3,000 tons of rails for the Whaley Bridge branch at £10 per ton. Another was that each guard should be furnished with a proper number of fog signals similar to the specimen then examined. And the last was to record that the first meeting of the Manchester, Sheffield & Lincolnshire Railway would be held in the Old Haymarket offices of the former Sheffield & Lincolnshire Junction Railway at Sheffield on 6th January 1847.



Early design of MS&L coat of arms.

The Allies of the SA&M

The oldest of the four undertakings which, by Royal Assent on 27th July 1846, combined to work as the Manchester, Sheffield & Lincolnshire Railway from 1st January of the following year, was the Grimsby Docks Company. It had originally been incorporated as the Grimsby Haven Company in 1796 (under the Act 36, Geo. III, cap. 98) at a time when the trade of the port had declined to coasting only, mainly because the problem of silting had not been energetically tackled. As a result, Hull gained the business which Grimsby allowed to pass it by.

Soon after the formation of the company, which had been promoted by local men of means, the River Freshney was diverted to secure a scour in the natural harbour and in 1801 what was later known as the Old Dock was opened. This was located at the mouth of Laceby Beck and connected with the Humber by straight outfall. It cost £,70,000 all told and covered an area of 19 acres, the entrance lock being 150 feet long by 37 feet wide, with a depth of 18 feet of water, on its cill, at high tide. The port now began to attract a Baltic trade and cod fishers in the North Sea, although by the early 'forties the coasting business had dwindled. It was upon the discovery of the Great Silver Pit south of the Dogger Bank, of supreme importance to the trawlers, that the plans to develop Grimsby were originally founded.1

By virtue of the Grimsby Docks Act of 8th August 1845 the Grimsby Haven undertaking was dissolved and vested in the Grimsby Docks Company. The latter's close association with the Great Grimsby & Sheffield Junction Railway was underlined by the fact that five of its Directors, Lord Worsley, Richard Thorold, Michael Ellison, George Heneage and James Wall were on the Board of that company; indeed, Lord Worsley was Chairman of both

concerns (see Appendix III).

The first meeting of the Grimsby Docks Company after its incorporation took place at the Queen's Head Inn, Grimsby, on 3rd September, when George Babb was appointed the Secretary and the Hon. Alexander Leslie Melville the Treasurer. It was subsequently agreed on 2nd October to make J. H. Humfrey joint Secretary with Babb, both being given salaries of £150. The first general meeting of the shareholders was held at the Town Hall, Grimsby, on 7th October, when a resolution to amalgamate with the GG&SI was carried against the one dissenting voice of D'Eyncourt, a Director.² The following day the decision was taken to start the dock works

^{1 &#}x27;A Hundred Years of Grimsby' by Frank C. Bowen, Dock and Harbour Authority, May 1945. ² Herapath's Journal, 11th October 1845.

at once under the superintendence of James Rendel, who was appointed Engineer on 1st December with a salary of £1,000. He was assisted by a Resident Engineer, Adam Smith, paid £500 a year. The last appointment to be recorded in the company's minutes was that of G. M. Williams, a member of the Board, who became Managing Director on 23rd April 1846.

Much more eventful was the story of the Great Grimsby & Sheffield Junction, which began in September 1844 with a survey made between Gainsborough and Grimsby by the Engineer and Secretary of the already mooted Sheffield & Lincolnshire Junction. The railway was promoted by a group of Sheffield men. Of these Michael Ellison, longtime advocate and Director of the SA&M, T. A. Ward, first Secretary of the SA&M and now Town Regent, James Dixon, Dr G. C. Holland, Abraham Howe, James Wall and John Woodcroft were the leading lights; Cornelius Randall of Manchester, another SA&M Director, was associated with them. The twenty-four-strong Provisional Committee, which included three Directors of the SA&M and seven Provisional Directors of the S&LJ, was headed by Lord Yarborough. The advertisement in Herapath's Journal of 12th October 1844 which gave this information also indicated that the capital was to be £600,000 in 12,000 shares of £50, that John Fowler was the Engineer and J. H. Humfrey the Secretary.

Lt.-Col. John Hambly Humfrey, F.R.A.S., Assoc.Inst.C.E., to give him his full designation, had come from Scotland to improve his fortunes. He had formerly been Secretary successively of the Glasgow, Kilmarnock, Paisley & Ayr and Caledonian Railways. Already Secretary of the S&LJ, he was appointed to the GG&SJ in a similar capacity at £200 per annum as from 1st October. Before long he was to add to these responsibilities the

secretarial duties of the S&LE and Grimsby Dock Company.

A public meeting to launch the GG&SJ was held at the Red Lion Hotel, Caistor, on 28th October 1844.¹ Well attended by North Lincolnshire landowners, and presided over by Lord Yarborough, a resolution was passed unanimously in favour of the construction of a railway from Grimsby to Gainsborough. It was agreed to consider the route at a further meeting and this took place at the Town Hall, Grimsby, on 6th November. Fowler then laid before the assembly three possible lines, via Caistor (34¾ miles, summit level 232 feet), via Brigg (36½ miles, summit level 115 feet) and via Market Rasen (37¼ miles, summit level 237 feet). Everyone present expressed their approval of the route via Brigg and it was resolved to build a branch from that place to Market Rasen. Satisfaction was also recorded with the proposed S&LJ, which would link the GG&SJ with the SA&M and provide an unbroken chain of railway from Grimsby to Manchester.

The first offices of the GG&SJ were in Bank Street, Sheffield, and shared with the S&LJ. These were leased to the Union Bank in February 1845 and premises were taken, with the S&LJ, in the Old Haymarket. The London

office was at 13 Abingdon Street, Westminster.

¹ Herapath's Journal, 9th November 1844.



Two views from the *Illustrated London News* of the dock works at Grimsby under construction in the autumn of 1848.



Original Provisional Board members are indicated in Appendix III although Jobson Smith did not join their ranks until early in 1845. Dr M. M. de Bartolomé was added on 25th January of that year, but did not become a Director upon the incorporation of the company. The provisional directorates of the GG&SJ and S&LJ were, it will be seen, closely linked by members representing the two railways and it was the practice for such members to be paid half the usual fees (which were 105 a meeting in Sheffield and 2 guineas a day for a meeting in London) by each for business done on behalf of both.

By the end of 1844 the GG&SJ had reached an understanding with the Grimsby Haven Company and the way was prepared for the formation of the Grimsby Docks Company which, in the 1845 Session, would seek powers to extend the docks for a capital commitment of £320,000. Supported by the

Dock Company, the GG&SJ would endeavour to secure its Act of Incorporation in the same Session, and by May 1845 the estimates for its construction were ready. These totalled a little over £442,000, made up as follows:

 Main line
 .
 .
 £389,929

 Market Rasen branch
 .
 30,385

 New Holland branch
 .
 27,730

exclusive of rails, chairs and the land as well as the stations.

With remarkably little opposition the Act received the Royal Assent on 30th June, the GG&SJ having bought off the threat of a rival project entitled the Hull & Gainsborough Railway by means of a payment of £6,000 to its promoters. The new company held its first Board meeting on Saturday, 2nd August, in the Old Haymarket offices at Sheffield. James Dixon presided and was supported by his namesake T. J., and Howe, Dr. Holland, Wall, Ward, and Woodcroft. With a letter of resignation before them from Randall, who had been named a Director in the Act, the Hon. Charles Anderson Worsley Pelham, commonly called Lord Worsley, who was not present, was chosen to fill his place and elected Chairman for the current year. Humfrey was appointed Secretary and Bookkeeper; shortly afterwards, in view of these increased responsibilities, his salary was raised to £300, as from 30th June.

The following resolution was also passed:

'To consider the propriety of treating and agreeing, and, if so determined, to authorise the aforesaid Directors to treat and agree with the owners of certain Ferries, called Barrow Ferry, New Holland Ferry, and Goxhill Ferry, situate near the aforesaid Railway, for the purchase of such Ferries, or any of them, and the landings, land, buildings, and appurtenances belonging thereto, or any part or parts of such land or buildings.'

Sensible enough, and innocuous enough, on the face of it. But its subsequent implementation was a sordid episode culminating in public revelation some four and a half years later when a Committee of Investigation of MS&L shareholders was set up to examine charges made against the Directors and Officers of that company. For that reason the background is now given in some detail.

The importance of the Humber ferry at New Holland came to the notice of the GG&SJ Provisional Committee as early as 6th November 1844, when they were informed that one of George Hudson's lines had made an offer for it. Contact was quickly established with the agent for the owners, who were prepared to sell for £11,000, this including the right of Barrow Old Ferry and the following property:

New Holland

Yarborough Arms Hotel and garden Stabling, coach houses and granaries Foldyard, piggeries and 7-acre field Foreshore, jetty, wharf and $\frac{1}{2}$ acres of land Warehouses and coal yard

Barrow Old Ferry

Public house, warehouse, granary and 2-acre field



The Earl of Yarborough (1809-1862), from an oil painting presented to the MS&L Board by Sir Edward Watkin and now in the BTC Collection.

Believing that the ownership of the ferry was vital to the interests of the GG&SJ, the Provisional Committee made an offer of £10,000, conditional upon the Act being obtained. This was declined by the owners, who stood by £11,000 with no strings attached.

Meanwhile, Robert Smith of Acaster, who had been appointed on 15th November to value the line of railway from Grimsby to Gainsborough, with branches to Market Rasen and New Holland, was asked to survey the property without delay. And on New Year's Day 1845, he reported that the ferry estate was a most worth-

while asset and likely to increase in value, even supposing the Act for the GG&SJ was not obtained. He put the net annual revenue at £420, the purchase money at £11,800, and, at that valuation, was prepared to take an interest himself.

The Directors unanimously agreed to conclude the purchase for £11,000 and Woodcroft, Ellison, Jobson Smith, Ward and Dr Holland, together with Robert Smith, Humfrey, Fowler and two of the GG&SJ Solicitors, Hinde and Gainsford, stood security for the amount. The other Directors were to be invited to join, and Howe, Randall and Wall subsequently became guarantors, together with J. Hett and G. Smith who were not connected with the projected railway. Subsequently Humfrey was not required to take up his share when the purchase was completed.

On 10th January, Robert Brown, the agent of the New Holland ferry owners, agreed to accept £10,000 for the property, no doubt to the complete satisfaction of the purchasers. The deal was closed at once, and at its meeting on 18th January, the Provisional Board decided to ascertain the rights of the ferry at Goxhill, with the intention of purchasing it in the same way. The Goxhill Ferry was subsequently bought for £300.

The Humber ferries deal was referred to in a GG&SJ advertisement in the Sheffield and Rotherham Independent of 18th January in the following terms:

'The Directors have also to announce that they have, on their individual responsibility, purchased from the proprietors the whole of their valuable property and privileges in the Ferries from New Holland and Barrow to Hull, with the land and buildings at both landing places, deeming it important to the success of the undertaking that the property should be at once secured by them, and essential to the future working of the Railway, that the arrangements of the Ferry should be under their control.'

From what has been related one might fairly draw the supposition that the Provisional Directors had purchased the 'property and privileges' in trust for the GG&SI, until its Act had been obtained. According to their own valuer, Robert Smith, the investment was not likely to be unprofitable, nor was the risk by any means great. But events soon indicated that the purchasers thought otherwise. Towards the end of January Humfrey was instructed not to enter in the records of the Provisional Board any further proceedings anent the Humber ferries. And Hinde, one of the GG&SI solicitors and a subscriber of £500 towards the purchase, was told 'that on and after 1st January 1845 he must be taken as acting for the parties in their private capacity and not as the Provisional Committee of the Grimsby and Sheffield Railway Company'. In other words, the purchase of the ferries was now regarded as a private affair in the hands of the Humber Ferries Company, of which the proprietors were the fourteen guarantors mentioned earlier! The purchase had in fact become a private speculation, and several others were approached to take shares in the enterprise, amongst whom were Joseph St John Yates (an SA&M Director), Dr de Bartolomé, Humfrey and William Smith (of Smith & Hinde and who acted as Solicitor to the Humber Ferries Company). To their credit, all declined.

At the first general meeting of the shareholders to take place after the incorporation of the GG&SJ, held on 27th August, the Board were empowered to treat with the owners of the ferries and purchase them for such prices as may be sanctioned by John Rodgers and William Smith, the Trustees of the company, and Mark Favell and Thomas Newmarsh, who were appointed for that purpose 'in consequence of some of the Directors having a personal interest in the Ferries'. And on the same day, at a meeting of the proprietors of the ferries, it was resolved 'That Messrs Ellison, Woodcroft and Howe be deputed to treat with the Directors of the Great Grimsby and Sheffield Junction Railway, for the sale of the New Holland, Barrow and Goxhill Ferries, for the sum of £21,000, the Railway Company paying all expenses, legal and otherwise, relative to its purchase by the present owners,

and sale of the said Ferries to the Railway Company'. With eight out of the eleven members of the GG&SI Board being amongst the fourteen owners of the ferries it was indeed a case of the buyers being the sellers too, despite the smokescreen of Messrs Rodgers, Smith, Favell and Newmarsh!

The last act was played out when the only three members of the Board who were not financially interested went into a huddle, with the result that Lord Worsley wrote to the GG&SJ Solicitors, Smith & Hinde, in the following terms on 25th September: 'I beg leave to inform you that I have consulted Mr James Dixon and Mr Thomas James Dixon as to the purchase of the Ferries across the Humber, and they both concur with me in recommending the purchase by the Company at the price asked by the gentlemen who possessed themselves of the Ferries at a considerable risk.' On the same day the price was approved by the GG&SI Board and the purchase was ratified at a later meeting of the Directors at Normanton on 8th October, Thus did the first buyers of the ferries clear a profit of over £11,000 on an outlay of

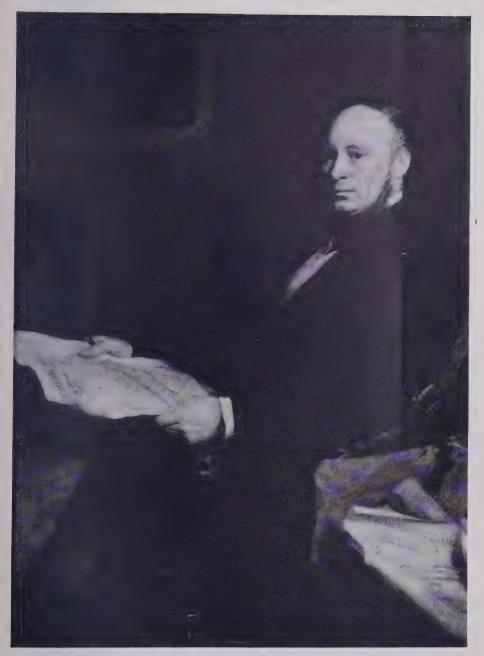
 $f_{10,000}$ within the short space of nine months.

Those who guided the destinies of the GG&SI learned to be more circumspect in their dealing and relations with other railways. A minute dated 11th August 1845 recorded that attention had been called to the prospectus of the Sheffield, Rotherham, Barnsley, Wakefield, Huddersfield & Goole Railway 'in which the names of several gentlemen appeared as Directors of the Grimsby & Sheffield Railway, thereby making it appear that this project was supported by the said Company . . . such not being the case'. In this particular instance the names of the GG&SI Engineer and Solicitor were also to be found in the prospectus. Instructions were given that all the names in question were not so to appear in future. Indeed, the GG&SI got quite apprehensive about the project and decided to seek the advice and support of the SA&M. A meeting duly took place on 5th September when, as related in Chapter VI, the decision to form the MS&L was taken. The SA&M Chairman had no doubts about the project with the long-winded title. It was a competing scheme, he said, and the area it proposed to penetrate could be 'served more beneficially' by the SA&M, the Midland and their branches.

Other projects affecting the GG&SI at the time were the Lincolnshire & Eastern Counties Junction, which it decided to oppose; the Isle of Axholme, Gainsborough & Goole, a creature of George Hudson's fertile brain, with which it would have nothing to do; and the Lincoln, Louth & Great Grimsby, which it resolved to fight 'with every available weapon'. In the case of the Wakefield, Pontefract & Goole (a protégé of the Manchester & Leeds), which meditated building a line from Goole to Brigg, the GG&SJ promised its support only on condition that the capital and management should be provided on an equal basis. None of these lines materialized.

By September 1845 the GG&SI had formulated its plans for the Parliamentary Session of the following year. These included an extension from Market Rasen to Lincoln and branches to Caistor, to Cleethorpes, from New

¹ The Railway Mania and its Aftermath.



John Fowler (1817–1898), Engineer-in-Chief of the MS&L eastern lines. From a painting by Sir John Millais presented to the Institution of Civil Engineers.

Holland to Barton (this being requested by the Commissioners of Woods & Forests), from Gainsborough to Newark and from Lincoln to Horncastle. The Directors were also determined to get possession of the East Lincolnshire Railway, which was projected from Grimsby to Boston. At their instigation this line was suggested for inclusion in the MS&L bloc for it would afford control of a considerable stretch of the hinterland to the Lincolnshire seaboard and help to secure Grimsby from invasion from the south.

A contract for the construction of the GG&SJ's main line and the New Holland branch was awarded to John Stephenson & Company in the autumn of 1845 for the sums quoted as estimates on page 87. In September, William Scholefield & Company of Parkgate Ironworks successfully tendered for 8,000 tons of rails and chairs at £12 5s od per ton for the former and £8 5s od per ton for the latter. Two months later Fowler was instructed to confer with the SA&M on the question of locomotives and rolling stock,

dealt with in the next chapter.

The Parliamentary Session of the year 1846, when the Railway Mania reached its height, was on the whole a successful one for the GG&SJ. A projected Hull to Lincoln Direct Railway, from a proposed ferry at South Ferriby on the Humber, opposite Hessle, to Lincoln via Brigg, was overthrown. By an Act passed on 26th June the GG&SJ was empowered to operate steam boats across the Humber for both passengers and freight. The Market Rasen – Lincoln, New Holland Barton, and Gainsborough – Newark lines were duly authorized, although the last named was never constructed. The Midland was prevailed upon to withdraw its Newark – Gainsborough extension, which would have followed a course similar to that of the GG&SJ route between these towns, in return for the GG&SJ agreeing not to pursue a branch from Newark to Averham, on the way to Southwell, which was regarded as a Midland preserve.

Also authorized, but never built, was the Caistor branch. Its Act included sanction for deviations to the Market Rasen line which, as originally conceived, was to leave the main line east of Brigg by means of a junction facing towards that place. The deviations embraced a junction west of Barnetby, trailing to Brigg, and a line thence passing near Bigby, and they were eventually carried out. There is no known official evidence that the original connexion which, with the Bigby line, would have created a triangular junction, was ever constructed, although it is shown on Macaulay's railway map of England and Wales of 1851. The Cleethorpes branch was destined not to materialize until 1863 and the Lincoln-Horncastle projectory was revived for the 1847 Session as a link from Stainton, on the Market Rasen-Lincoln line, across the Wolds to Louth, on the East Lincolnshire Railway, with an off-shoot to Horncastle; in the event, only the section from Stainton to Wragby passed the legislature, and this was never built.

A serious setback sustained by the GG&SJ was its failure to acquire the East Lincolnshire Railway, of which Fowler was the Engineer, by one means or another. An approach made in November 1845 had been answered by a letter from its then Secretary, Thomas Reynolds, to the effect that his

Directors preferred remaining at present independent of any railway company. In October of the following year the GG&SI indicated its desire to work the East Lincolnshire, which by then had got its Act, when its first section between Grimsby and Louth was completed; to lease the line at a rental of 5% on the outlay; and to assume the liabilities of the Louth Navigation. But by this time the Great Northern was equally determined to prevent the East Lincolnshire falling into any other hands but its own. The GG&SI's intentions, indeed the intentions of the nascent MS&L, were finally thwarted soon after the latter had begun to function. On 4th February 1847, Jobson Smith, a Director of the MS&L, met G. H. Packe of the East Lincolnshire and J. M. Laws of the Great Northern at the London office in Abingdon Street. After a protracted discussion Jobson had to agree to accept the proposed Great Northern branch to Horncastle; to curtail his company's Lincoln - Louth line, with its Horncastle branch, to the fragment from Stainton to Wragby; and to withdraw opposition to the fusion of the East Lincolnshire with the Great Northern. The only crumb of comfort he got in return was the assurance that the East Lincolnshire would abandon its intention to apply for powers to build a line from Louth to Lincoln.

In November 1846 the GG&SJ placed its last contract. This was for £73,000 for the Market Rasen-Lincoln line, awarded to John Waring & Sons. Michael Ellison presided over the final Board meeting held at Sheffield on the 15th of the following month. The business dealt with included a letter from the Vicar of Gainsborough, who sought a contribution towards the lighting and heating of a room in which evening lectures were to be given to the labourers working on the line. With the fuss over Woodhead fresh in their minds, the Board authorized their Secretary to donate up to £10, after

he had ascertained the probable expense!

The origin of the railway connecting the SA&M and the GG&SJ, the Sheffield & Lincolnshire Junction, stems from a prospectus issued as early as July 1836 for a line from the projected SA&M terminal at Sheffield to the Midland Counties Railway, the construction of the latter, from Rugby to Leicester, Derby and Nottingham, only recently having been authorized. A few months later the scheme was contracted to a 6 miles line entitled the Sheffield Union Railway. This was to run from the same point in Sheffield, but to connect at or near Woodhouse Mill with the North Midland, then about to be constructed from Leeds to Derby but by-passing Sheffield, much to the mortification of its inhabitants. The Sheffield Union prospectus show. 'that the undertaking was to have a capital of £150,000 in 3,000 shares of £50; that its 21-strong Committee, headed by Hugh Parker as Chairman and Michael Ellison as Deputy Chairman, contained many other Sheffield men of substance; and that its Engineer was George Leather of Leeds, who had been assisted by Joseph Locke in the selection of the route.

Rather surprisingly the Sheffield Union project was never consummated and it was not until the promotion of a line to Chesterfield in 1843 that the

¹ Sheffield and Rotherham Independent, 14th July 1849.

idea of a southern outlet from Sheffield was revived. But the Bill for the Chesterfield line urgently needed strengthening and a meeting for this purpose was held at the Cutlers Hall, Sheffield, on 4th March 1844. And it was on this occasion, it was claimed, that a scheme for extending the SA&M eastwards was first propounded to the public in a tangible form. The arguments in its favour, reported the newspaper, were enforced by its advocate, Henry Hinde, in an ingenious and energetic speech, and he proposed as an amendment to the resolution in favour of the Chesterfield line 'that before the assent of the people of Sheffield be given to the proposed line, it behoves them to consider whether the benefits offered by the Sheffield and Chesterfield line might not be secured by another line, embracing in addition a great and paramount advantage'.

The first prospectus of the S&LJ was issued in April 1844. It was headed by an influential Provisional Committee, of whom Samuel Francis Flower, John Holmes, Abraham Howe, T. D. Jeffcock, Thomas Asline Ward and Samuel Watkins, mostly of Sheffield, formed the Executive Committee. Smith & Hinde and R. S. Gainsford were appointed Solicitors. James Dixon, Alderman Hoole and John Fawcett were added to the Executive Committee on 24th May, when it was decided to send one of the Solicitors and the Acting Engineer, John Fowler, to London to seek the services of a Consulting Engineer, the names of Locke, Brunel, Rastrick and Vignoles being amongst those to be considered. Locke had to decline owing to pressure of other work and after sounding Rastrick, Vignoles and two or three others without success, the quest was given up. Fowler's willingness, expressed earlier, to receive half his usual fees in the event of the railway not being incorporated may have had something to do with it. He continued as Engineer and was confirmed in that post when the Act was obtained, Lt.-Col. Humfrey was appointed Secretary on 22nd August at £,200 per annum.

With the launching of the prospectus its sponsors began to canvass actively for public support. Hinde had already sounded Retford Town Council, who promised their aid, and on 30th May he, together with James Dixon, Ward and Gainsford, attended a public meeting summoned in Gainsborough. The scheme was very well received, save only by those who were interested in the shipping trade at that place. Retford again pledged its support at a public assembly at the Town Hall on 17th June. On 16th September, to cement the undertaking given in August by the SA&M Board (already referred to on page 46), Wall and Gainsford went over to Liverpool to explain the scheme to the influential Liverpool proprietors of the SA&M. The town of Worksop unanimously welcomed the S&LJ's proposals at a big meeting held there on 27th September and presided over by Watkins.

The strength of the S&LJ did indeed not only spring from the backing of the SA&M but from the local interests represented by the men who headed it. Its second prospectus, issued soon after the SA&M assurance had been obtained, revealed that its 33 strong Provisional Committee contained three

¹ The GG&SJ employed the same Solicitors.

merchants, two brewers, and four corn merchants from Sheffield, Woodhouse Mill, Worksop and East Retford, besides several influential business people of Sheffield, the Mayor of that place and his colleague at Retford. In addition there were Parker, Randall and Ellison of the SA&M and Dr Holland of the Huddersfield & Manchester Railway & Canal Company. The scheme was described as 'an extension of the Sheffield and Manchester Railway to Lincoln and Gainsburgh' and the capital was set at £650,000 in 26,000 shares of £25.

On 23rd September the Provisional Board of the S&LJ was set up. In addition to those denoted in Appendix III, John Parker, W. F. Dixon, A. Horne, J. St John Yates, Samuel Watkins and S. F. Flower were also appointed Provisional Directors. Some important decisions were taken. First, that the natural extension of the line onwards from Gainsborough or Lincoln to Grimsby – in other words, the GG&SJ – should be pursued with vigour. Secondly, that the SA&M should be asked to provide plans of their Sheffield terminal so that the matter of a junction between the two lines could be settled. And thirdly, that they send a deputation to meet George Hudson to discuss the crossing of the North Midland line at Beighton, where physical connexions were contemplated. A Committee of Management was also constituted. This was comprised of J. Dixon, Ellison, Dr Holland, Jobson Smith, Wall, Ward and Woodcroft, and thereafter most of the business of the S&LJ was conducted by this body until the Act of Incorporation was obtained.

The first encounter with George Hudson took place at York on 28th October. The Railway King expressed himself as in no way hostile to the S&LJ, but rather to the contrary. Indeed, to quote the actual report of Woodcroft, 'he had stated that if Mr Parker, the Chairman of the Sheffield & Manchester Railway would say that he was bound by the agreement with that Board to second the formation of the Sheffield & Lincolnshire line, or that such a course was his duty, he would unhesitatingly do so. That he declined at the moment to pledge himself to anything, but appointed Tuesday, the 5th November at Derby to meet the deputation, by which time he could study the subject which he had not hitherto considered at all'.

Wall and Dr Holland represented the S&LJ at the second meeting, and to the relief of their colleagues, were able to bring back the news that the Midland Board, headed by Hudson, had expressed themselves most cordially in favour of the S&LJ and that they would not under any circumstances oppose it. Furthermore, they had equally endorsed the GG&SJ, which they viewed as very beneficial to Midland interests.

Hudson's magnanimous attitude is not surprising when it is remembered that the Midland, together with the Manchester & Birmingham, had just agreed to lease the SA&M. Indeed, it was only the previous day that the shareholders of the latter had been summoned to approve the deal. Whether Parker, who was also on the S&LJ Provisional Board, had kept his eastern allies currently informed of the march of events is not known. All the same, the anxiety of the S&LJ as to its future was sufficient to cause the despatch



Cutting the first sod of the Sheffield & Lincolnshire Junction Railway at High Hazles on 15th October 1846, as depicted in the Illiatrated London News.

of a deputation to the SA&M on 27th November. Parker then reassured them by promising that he and his whole Board would do nothing without consultation with the S&LI; and that no arrangements at all would be entered into without their knowledge and concurrence.

Parker also declared as totally false and unfounded an allegation made in Herapath's Journal of 16th November that the Manchester & Birmingham was to be leased by the Manchester & Leeds. A week later the same publication alluded to 'a report in well-informed circles in Liverpool' that the S&LI was to be quietly shelved. Humfrey was immediately instructed to issue a refutation to all railway journals and local newspapers. Even in those days the railways had their difficulties with certain sections of the press!

One further event of 1844 is worthy of mention because it throws some light on a railway promotion problem of the times. At the beginning of December the Committee of Management became alarmed at the delay in depositing the necessary plans and sections with the Clerks of the Peace in the areas through which the line was to pass. Only the Board of Trade had received copies. A sharply worded letter addressed to Fowler revealed that the lithographers, Hague & Day, and not the Engineer, were to blame. In brief, the men in the lithographers' office were so grossly overworked by railway demands that they gave prior treatment to those who bribed them with extra money.

Despite the delay, and an adverse report from the Board of Trade, the S&LI decided to proceed with the Bill, abandoning the Lincoln branch if necessary. And it was through no fault of the promoters that they were unsuccessful in the 1845 Session. The S&LJ Bill was, unfortunately, included in the same group as that of the London & York, upon which so much of the Committee's time was spent that little was left for consideration of the remainder. The Committee were, however, able to consider the merits of the S&LI main line from Sheffield to Gainsborough against those of the rival London & York branch from Bawtry to Sheffield. They decided in favour of the former, relegating the Lincoln branch for further consideration, but insufficient time was left to get the Bill through the House of Lords before the proceedings terminated.

At the end of March 1846 the Manchester, Sheffield & Midland Junction Railway, under which title the line from Sheffield to Chesterfield was being promoted, approached the SA&M. The Chairman of its Provisional Committee, Wilson Overend, suggested to Parker that capital not exceeding £100,000 be placed at the disposal of the SA&M, who could appoint two Directors, and that amalgamation be effected five years after completion of the line. The MS&MI projected route was to be via Dronfield and include a branch to Bakewell, where it would connect with the Manchester, Buxton. Matlock & Midlands Junction. Thus would be created a second route between Sheffield and Manchester. The SA&M naturally objected strongly to the branch, but felt that the main line was more the concern of the S&LJ and Jobson Smith was asked to deal with Wilson. That the S&LJ took equal exception to the main line is evident from the decision of the two allies on

26th April 'that every means be taken to delay the proceedings' of the MS&MJ Bill. The worst enemy of the MS&MJ was, however, its severe gradients, and the scheme was shelved, to be revived successfully by the Midland many years later.

A prelude to the Session of 1846 was the appearance of the Manchester & Lincoln Union Railway. This was backed chiefly by the shareholders of the Chesterfield Canal who, thoroughly disturbed by the prospect of seeing their traffic abstracted by the ultimate construction of the S&LJ, concocted a rival

line to Gainsborough and Lincoln over a similar route.

The S&LJ wisely met this threat by a policy of conciliation and combination of interest. A joint committee of Provisional Directors of both undertakings was set up, which from February onwards held several meetings, and by the time their Bill had been read a second time the M&LU agreed to fusion with the S&LJ, retaining only the Staveley–Worksop portion of their line. The price of their assent was the inclusion of the Chesterfield Canal in the amalgamation. Incorporated on 7th August 1846 as the Manchester & Lincoln Union Railway & Chesterfield & Gainsborough Canal Company, the undertaking was vested in the MS&L on 9th July of the following year. Its directorate is given in Appendix III.

As a result of the course followed by the S&LJ with the M&LU they were able to carry their suspended Bill through the House of Lords without any further upsets, and it received the Royal Assent on 3rd August 1846. On the same day the Sheffield & Lincolnshire Extension was incorporated. The S&LE was to all intents and purposes the S&LJ and was put forward to get sanction for the Lincoln branch which had been unsuccessful in the previous Session. It was planned to leave the S&LI main line at Clarborough, a few miles east of Retford, and run in a south-easterly direction to Lincoln, there to join the GG&SI line from Market Rasen. In the event, the last 7½ miles of the S&LE into Lincoln were authorized to take the same route as that secured by the Great Northern for its line from Lincoln to Gainsborough. It was therefore agreed that the latter should build this section for the benefit of both and grant running powers into Lincoln, in return for which the Great Northern would be given similar facilities from Retford to Sheffield. Thus the S&LE in its final form extended only from Clarborough Junction on the S&LI to Sykes Junction, near Saxilby, on the Great Northern.

The first meeting of the S&LJ Board, which took place in its Old Haymarket offices on 11th August, was mainly concerned with the set-up of the directorate and the confirmation of officers' appointments. On the 16th of the following month, however, the Directors met specially to consider the situation which had arisen through an attempt being made by the Sheffield, Rotherham, Barnsley, Wakefield, Huddersfield and Goole to acquire the Sheffield Canal; by this means it would enter Sheffield and build its own station there. It was agreed that Jobson Smith should approach the Canal authorities at once, and the purchase was effected before the close of the year, the S&LJ undertaking to pay a perpetual annuity of 50s per share.

In the interests of revenue the S&LJ thought it best to tackle the section

from Sheffield to the Midland at Beighton first of all. And on 6th October the tender of £66,000 of Miller & Blackie was accepted for its construction, save the viaduct at Sheffield. Shortly afterwards orders for the rails (at £10 10s od per ton) and chairs (at £6 9s od per ton) were placed with William Scholefield & Company and Losh, Wilson & Bell respectively, and Fowler was instructed to advertise for sleepers.

All was now ready for the ceremonial cutting of the first sod. The spot chosen was on the side of a hill at High Hazles, near Darnall, the property of William Jeffcock. The function was timed for 1.0 p.m. on Thursday, 15th October which, as luck would have it, turned out to be a wet day. Nevertheless, great crowds of people, on foot, in carriages, and on horseback, thronged the road from Sheffield to the scene of action. Amidst loud cheers, the Mayor of Sheffield, Samuel Butcher, accompanied by Alderman Dunn, arrived soon after one o'clock. A beautifully carved Spanish mahogany wheelbarrow, by George Elton of Fargate, Sheffield, and a highly finished steel spade, embodying silver fittings, made by Joseph Rodgers & Sons and suitably inscribed, were then brought to the site. The Rev. B. T. Stannus prayed for the success of the new railway. Then the spectators formed themselves into a ring around the participants, Samuel Butcher and Jobson Smith, the S&LJ Chairman. The latter, having delivered himself of an appropriate preamble, handed the spade to the Mayor, who responded suitably and proceeded to fill the role assigned to him and illustrated on page 96, to further acclamations. Alderman Dunn called for three cheers for the Directors. And after T. A. Ward, the Town Regent, and T. B. Turton, the Master Cutler, had also indulged in some sod cutting, the navvies began the job in earnest. The party then adjourned to the Cutler's Hall, where some 250 guests fortified themselves with 'an elegant cold collation' for the further speechmaking

The final link in the chain of the Manchester, Sheffield & Lincolnshire Railway was at last being forged.



taken in Sweden in 1860, depicts No. 2 or No. 3 (probably the latter) at work on the Gette Dala Railway which named her Norden. The Sharp characteristics were acquired in 1842 and the cab was added after disposal to Sweden. [Courtesy: Jarnvagsmuseum (Swedish State Railways Museum), Stockholm The only known illustration of one of the SA&M Kirtley locomotives. This photograph,

Locomotives and Rolling Stock 1841-1846

Neither the SA&M nor its successor the MS&L seemed to think that posterity might one day be interested to know what the earliest locomotives looked like. Of the three o-4-2 locomotives, built by Kirtley & Company of the Dallam Foundry at Warrington and set to work the first trains in 1841, no illustration depicting them in their original condition is known to exist.¹

The leading particulars of all the SA&M locomotives are given in Appendix IV and it will be seen that No. 1, eventually named Python, was sold in 1859. She migrated to Spain, where Alfred Jee had met his death in a railway accident the previous year. Here she lived up to her name, for a day came when she ran off the rails and, by a strange twist of fate, crushed to death Thomas Gee, a former SA&M employee. In 1860 she returned to work at Brymbo Colliery and was subsequently bought by I. W. Boulton, who broke her up, keeping only the front firebox plate as a memento of his association with the SA&M.2 Years later this relic was illustrated in the Railway Magazine (pp. 110-111 of vol. ix), but it would be a genius indeed who could form from it any idea of the appearance of Python. But one of her two sisters, probably No. 3, found her way to Sweden where, fortunately, the photograph reproduced opposite was taken in 1860. By this time she had been renovated by Sharps (hence the dome so close to the chimney), had acquired an MS&L brass safety valve casing and had been given a cab, but in most other respects she retained her original appearance.

In alluding to the three locomotives in its issue of 20th November 1841 the Manchester Guardian merely said 'The engines have at present neither names, numbers nor other distinctive marks and no bright brass work, so that they are certainly far more useful than ornamental'. They soon demonstrated that they were neither useful nor ornamental. At the beginning of December 1841 Locke reported to the Board that they were not finished and fitted up in a workmanlike manner and were quite unequal to their task. There had, in fact, been repeated failures, and the SA&M was able to get out of an embarrassing situation only by hiring an engine from the Manchester & Birmingham Railway at £4 a day. Arrangements were made for one of a batch

¹ Illustrations of locomotives as originally built by Kirtley & Co seem to be rarities. The author knows only of one, a 2-2-2 tender engine, which appeared in *The Locomotive Engine Popularly Explained*, by William Templeton of Leeds, published 1841 by Simpkin Marshall & Co for 5s.

² The Chronicles of Boulton's Siding by A. R. Bennett (Locomotive Publishing Co 1.td, 1927).

of three 2-2-2 locomotives ordered from R. Stephenson & Company by the Manchester & Leeds Railway to be diverted to the SA&M and this arrived before the end of the year, to become No. 4. Similarly, in January 1842, the Manchester & Birmingham agreed to transfer to the SA&M a 2-2-2 just completed by Sharp Roberts & Company. An order had been placed in the previous month by the SA&M with the same builders for two further locomotives of like design. These arrived in April and were provided with tenders built by Jones & Potts of the Viaduct Foundry, near Newton-in-Makerfield, at £181 apiece; in those times it was not unusual for one company to construct the engines and another the tenders. The defective Kirtley locomotives were handed over to Sharp's to put in working order, Mr Roberts of the firm being deputed to apportion the amounts to be paid by the builders and by the SA&M; Kirtley's eventually had to stump up £695.

Throughout the period under review, from 1841 to 1846, the locomotives used coke exclusively as fuel, this costing from 16s to 18s per ton. The Sharp's engines built up to about 1844 were fitted with the firm's four eccentric underslung gab motion, but locomotives Nos. 17–22 embodied Cabry motion, in which the forward gab was lengthened. This permitted a certain degree of expansive working, although only two positions of cut-off were customarily

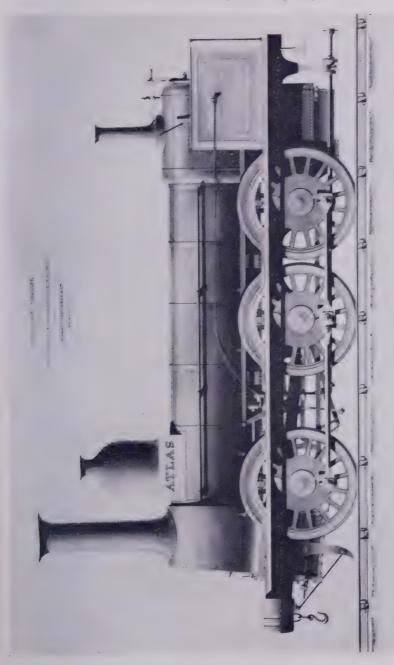
used. The reversing shaft was in all cases underslung.

On 4th November 1844 the Board minuted that six 6-wheeled passenger locomotives at £1,380 each, and six tenders, holding not less than 850 gallons, at £290 each, together with four 'goods or luggage engines' at £1,930 each, and a like number of 1,000 gallon tenders at £300 each, were to be ordered from Sharp's. All ten locomotives were to be fitted with 'Bodmore's variable expansion'. This doubtless is the origin of the statement¹ that in 1844 Sharp's supplied the SA&M with a locomotive constructed under Bodmer's patent and that in the following year four 6-coupled goods engines built on the same principle were put to work.

The Bodmer principle had nothing to do with steam expansion but was concerned with balance. And there is some doubt as to whether any Bodmer engines ever worked on the SA&M. A careful search of Gorton archives, of Sharp's old records and of Bodmer's papers in the possession of the family did not reveal any mention of such engines having been built for or owned by the railway. Furthermore, the Bodmer papers did not indicate that any 6-coupled goods engines were ever constructed on this system. It is, however, possible that the 1844 locomotive was a Bodmer and, if this was indeed the ase, it was doubtless No. 9, for an official note stated that during November .544, the month after her appearance, her coke consumption was 21.92 lbs per mile. This special reference would seem to indicate that her design embodied some new feature.

Three other locomotives call for comment. No. 5 was fitted with 'Good-fellow's patent pistons' in 1842.2 No. 25 (built by Fenton Craven & Company,

¹ By the late G. A. Sekon in Evolution of the Steam Locomotive 1899 and in The Railway Magazine, Vol. XI, page 109.
² Committee of Management, 22nd March 1842.



SA&M Mins class o-6-o 'luggage, engine, from a drawing completed in September 1846 by T. Molymenn, and mow in the collection of Mr. William Turner of Glossop. Because of their long boilers and short fireboxes these becomeaves, and those of the Sphux class, were nicknamed 'shooting galleries' by the enginemen.

successors to Shepherd & Todd, and later E. B. Wilson, of Leeds) was originally intended for the Manchester, Bury & Rossendale Railway. The following locomotive, No. 26, was the precursor of the class known as the 'Sharp Goods' and was designed by Charles Frederick Beyer, the builder's Chief Draughtsman, a German who was to enjoy the enviable reputation of never having designed an ugly engine. In a paper read by him at Manchester¹ he stated that No. 25 ran 40,222 miles between May 1846 and the end of October 1847, her average coke consumption being 37.94 lbs per mile. And that she hauled a train of 101 wagons, weighing 597 tons, over a distance of 29 miles at an average speed of 13.7 miles an hour. No doubt it was this latter outstanding achievement, clearly establishing the 'Sharp Goods' as the then most powerful main line engines in the country, that provoked Beyer to exclaim 'Ach, anything vill a locomotive do!'

No. 26, eventually named Atlas, and her later sisters, had cast iron wheels with balance weight extensions to the wheel bosses, a design at that time unique for so-called luggage engines and perpetuated, with only minor alterations, at Crewe on the London & North Western Railway until the close of the nineteenth century. She had what was known as a long boiler, in which all the wheels were located ahead of the firebox. This was an arrangement introduced and patented by Stephenson, but Sharp's used it for goods engines only. Its primary objective was to reduce loss of heat and the amount of unburnt fuel passing through the smokebox and chimney; but two other advantages obtained were the low centre of gravity and the short wheelbase of less than 12 feet, which the turntables of the time demanded. The overhang at the trailing end was, nevertheless, a disadvantage, as short fireboxes with restricted grates were unavoidable, and with the grates further restricted in area by the employment of midfeathers, small blast pipes were necessary. The small grate was, however, practicable with coke as a fuel.

All the SA&M engines had a boiler pressure of about 80 lbs per square inch. The two Sharp's 2-4-0 locomotives were similar in design to the standard singles of the same builder, possessing the usual inside cylinders and double frames. The Sharp's engines built to these standard designs had the reversing lever on the left-hand side, and so the driver occupied this side of the footplate. One other point of interest is that all SA&M locomotives carried head lamps equipped with green instead of white glasses, and these were, in fact, described as 'signal lamps'. Most of the tenders were 4-wheeled, and of 850 gallons capacity.

The livery adopted for the locomotives and their tenders is not known, but was probably dark green. The Manchester Directors ruled in February 1842 that the tenders laid up awaiting the return of the rejuvenated Kirtley engines were to be painted the same colour and style as that belonging to the Sharp 2-2-2 No. 5, as were those being made by Jones & Potts. And that is the only reference to motive power livery in the company's various minutes which have been preserved. On 19th January 1842 Jee was instructed to

¹ Proceedings of Institution of Mechanical Engineers, November 1847.

order the requisite name and number plates for the locomotives. The name in this case would be that of the company, for in October of the previous year the Committee of Management had decided that 'the engines, carriages and waggons and their appurtenances to be used on the line be designated by numbers and not by names'. This included tenders, which bore their own individual numbers.

The SA&M had no locomotive works of its own, but modest repair shops and stores were established at Newton when the first section of line was opened. These were in the charge of Richard Peacock. It is not clear when Peacock, who joined the company as 'engine driver No. 1' on 13th October 1841, was given greater responsibilities; but his appearance on the footplate must have been of very short duration, for on 9th February 1842 his salary was raised to £150 'providing he is capable of keeping the requisite books required in the Locomotive Department in addition to his present duties as Superintendent'.

Born at Swaledale on 9th April 1820, and the seventh son of Ralph Peacock, who was a foreman of several mines in the neighbourhood, the young Locomotive Superintendent of the SA&M had had his first encounter with the iron horse when, at the tender age of five, he was taken to see the newly opened Stockton & Darlington Railway. In 1830 Ralph Peacock became Assistant Superintendent on the Leeds tunnel of the Leeds & Selby Railway. Because of this change, Richard was educated at Leeds Grammar School, which he left in 1834 to be apprenticed to the locomotive building firm of Fenton, Murray & Jackson. Four years later, Peter Clark, the General Manager of the Leeds & Selby, offered him the job of Locomotive Superintendent. This Peacock reluctantly declined only because he felt that as a youngster he would have difficulty in commanding the much older men under him. 'Can you manage the work?' Clark asked him, and Peacock assured him that he could readily cope with that part. Clark thereupon remarked 'Then I will see to the other', and on that understanding the appointment was made. There was no difficulty with the men for they quickly recognized the ability and superior knowledge of their youthful chief. But the leasing of the Leeds & Selby by the York & North Midland, a Hudson line, in November 1840 resulted in the transfer of the L&S workshops to York. Hudson, who knew how to pick men, urged Peacock to take charge there, under Cabry, but he decided to widen his experience elsewhere. He journeved to London to secure employment under Daniel Gooch of the Great Western, where he gained useful experience in a variety of jobs, before returning north to join the SA&M.

By the time the MS&L amalgamation became operative he was being paid £350. But until then, quite possibly because of his youth, he was not always given the status his designation deserved, for on important decisions regarding the locomotives it was the habit of the Board to consult either Locke or Jee for the final opinion. And on most matters relating to carriages

¹ Beyer Peacock Quarterly Review, July 1927.

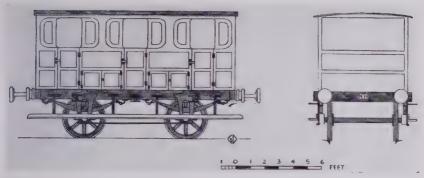
and wagons the Engineer was invariably consulted. The civil engineer still overshadowed the mechanical engineer, at least so far as railways were concerned.

Although the famous works at Gorton was not to produce its first locomotive until 1858, its beginnings may be traced back to SA&M days, for on 27th August 1845 the Board decided that their Manchester colleagues should make enquiries for land for a 'permanent locomotive and carriage depot'. Gorton was the place eventually selected, for there the railway and the land first took the same level out of Manchester; and, in Peacock's words, it was sufficiently far out 'to be clear of the heavy local taxes with which all such establishments in large towns are burdened'. On 4th March 1846, when the Directors met in London at Morley's Hotel, Trafalgar Square, a plan for the purchase of land at Gorton for 'locomotive workshops' was approved. And on 16th May Barber & Worthington's tender of 8d per cubic yard for earthwork was accepted and a contract was placed with Chadwick & France for the buildings, which were to cost £26,827. Peacock was responsible for the planning and design of the whole establishment.

Twenty-nine locomotives were contributed to the MS&L by the SA&M, three 0-4-2s, three 2-4-os, a solitary 0-6-o and twenty-two 2-2-2s. All were tender engines and all but five had been built by Sharp Roberts & Company, or their successors Sharp Bros & Company of Manchester. Throughout its last year the SA&M was seriously embarrassed by shortage of motive power. So busy were all the reputable locomotive builders that by the end of 1846 the company still awaited delivery of six passenger and six goods engines ordered in 1845. Nevertheless, during 1846, it carried more than 1,697,000 passengers, producing receipts of nearly £65,000, whilst the movement of mails, parcels, cattle, merchandise and coal yielded almost £97,000.

The lines of the other constituents of the MS&L were still a long way from completion and only the GG&SJ had been in corporate existence long enough to reach the stage of considering locomotives and rolling stock. On 5th November 1845 their Engineer, Fowler, was instructed to confer with Jee (be it noted) and the SA&M management and then prepare specifications and drawings of locomotives and carriages to be available 'for the partial opening of the line from New Holland to Brigg and Lincoln'. Two months later Fowler was authorized to purchase four engines and tenders from Sharp's, for delivery by the summer of 1847. These builders were, however, so overwhelmed already with the needs of other railways that they could not promise completion by the required date, and so the contract went to Fossick & Hackworth of Stockton-on-Tees. The remaining orders for GG&SJ locomotives were placed during the early years of the MS&L.

SA&M records show that the coaching stock requirements of the line were first considered on 24th March 1841, when Locke's specifications for 1st, 2nd and 3rd class carriages were sent to five builders. A week later the Committee of Management considered 'that three first class be ordered to hold each 18 passengers inside and two on the roof and to be suspended on leather braces'... the carriages, of course! The similar vehicles on the



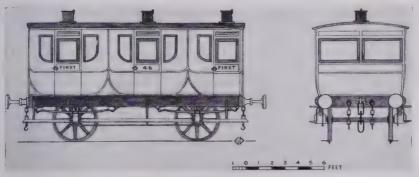
SA&M 3rd class Parliamentary coach.

Grand Junction Railway were suggested as a prototype, and in advocating the provision of six 2nd and eight 3rd class carriages the Committee recommended that they should be of the same kind as those of the Manchester & Birmingham.

It was finally decided to start operations with 14 carriages and these were built as follows:

Builder				Number and class Cost each					
Jonathan	Dunn &	& Son of	Lancaster		3 - 1st	£ 395			
23	>>	22 22	>>		2 - 2nd	209			
Allcard & William	Co of Bradley	Warringto & Co of S	on ". Sheffield		3 – 3rd 3 – 2nd 3 – 3rd	170 213 170			

They were all favourably commented upon at the time of their appearance. The 1sts accommodated six persons in each compartment, from the roof of which a lamp was suspended and 'the aperture when the lamp is removed affords ventilation to the carriage'. The 2nds, unlike those of other railways, possessed partitions carried up to the roof to provide three compartments, as



SA&M 1st class coupé coach.

in the case of the 1st class vehicles. The 3rds, or 'stand-ups', which were open wagons, were simply described as 'large and capable of holding a considerable number of persons'. Possessing only one door each, they were fitted with doors on either side soon after going into traffic. Brakes, then called 'breaks', operated from the guard's perch on the roof, were provided on all the 1sts and most of the 2nds; three of the 3rds also had them.

More details have survived of their external finish than is the case of the earliest locomotives. The SA&M coat of arms was displayed on the centre door on each side of the 1st and 2nd class vehicles. All the carriages were given a livery of light claret 'same as is usually adopted on Mr Locke's lines' and carried on each side the legend 'Sheffield, Ashton-under-Lyne & Manchester', in three-inch letters, save for the words 'under-Lyne', which were one inch deep.

Some of the SA&M carriages were purchased on condition that the builder kept them in good repair for twelve months after delivery; this first occurred with three 2nds ordered from S&T Bowler early in 1843. During the period 1842–44 construction costs showed a marked decrease. Six 3rd class carriages, the first on the SA&M to be provided with seats and covered tops, were ordered from Jones & Potts on 1st November 1843 for £96 12s each; two 2nds bought concurrently from Smith & Dagley cost £134 each, including brakes and top rails for luggage; and seven 1sts which Richard Melling of Chorlton-on-Medlock was asked to build, at the end of May 1845, cost £310 apiece. Brakes were still being denied some of the new 3rd class vehicles, for S&T Bowler were given a contract at the same time for five 'without guard's boxes and breaks'.

Four 1st class carriages ordered in September 1845 from Richard Melling were the first to be recorded as embodying a coupé compartment, as shown in the illustration of No. 46 on page 107. In the same month the first composite coaches on the SA&M were ordered from Dunn & Son. The classes were not designated, but it is probable that they were 2nd/3rd vehicles; all four were provided with guard's boxes and brakes. The first luggage vans were built by S&T Bowler, who got an order for six in September 1845; costing £144 108 a piece they too were equipped with brakes.

Only one order for rolling stock was placed by the GG&SJ during its independent existence. This was for four 1st, six 2nd and six 3rd class carriages, given to Atkinson & Phillipson of 93 Pilgrim Street, Newcastle-on-Tyne on 9th March 1846. Their specification was, rather unusually, given in some detail in the relevant Board minute, and it is quoted below in full because of

its historic interest:

^{&#}x27;2 First class carriages, with 3 compartments, each compartment divided by elbows, and head rests, lined with superfine blue cloth and Morocco leather and laces to correspond, silk sun blinds, ventilators above doors, plate glass in doors and quarter lights and wire gauze blinds in each door. The framing of the bodies of best English ash, and the pannels of mahogany all properly seasoned, roof rails to the top and Guard's seat, the underframes to be made of oak, with best steel springs, with leather braces over the springs, shackles, buffer springs and buffers, Lock & Co's patent wheels and axles, painted the same colour as the carriages of the Sheffield & Manchester

Company, and highly varnished, and neatly pricked out and edged. The whole to be warranted of the best materials and workmanship and similar to those running between London and Newcastle, at £365 each.

'2 First class carriages, with 2 compartments and a Coupé, similar in all respects to

the carriages above described at £355.

'6 Second class carriages, with 3 compartments and a Coupé, Luggage boots underneath seats, the framing and wheels to be the same as the First class carriages,

and to be painted the same, at £248 each.

'6 Third class carriages, closed entirely in with glass, to slide into doors, and two glass frames on each side made to slide, the upper framing of ash, and the underframing of oak, strong side and buffing springs, wheels and axles the same as First class carriages, painted the same, and to carry 48 passengers, a patent screw connecting link and safety chains to each carriage, also a quadruple slide break to each carriage similar to those on the London and Newcastle carriages at \pounds_{185} each.

'The First class carriages to be furnished with lamps and protectors, two to each compartment at 26/6 each, all the carriages to be furnished with Luggage covers. with straps and brass clasps at £4 4s od each carriage. The carriages to be delivered at one of the Company's stations by 1st June 1847 and to be paid for in cash within

one month of such delivery.'

The freight rolling stock of the SA&M calls for a few comments. The initial large order was for coal wagons placed in April 1842, S&T Bowler building 15 and Henry Holcroft 10, and these cost £55 each. Hopper coal wagons appeared in the following year, W. Bevin & Company getting an order for 50 at £35 15s each in February. The first cattle wagons and double tiered sheep wagons also came out in 1843, the former built by S&T Bowler and the latter by Richard Melling. The first horse box and the first carriage truck were ordered in September of the same year from Henry Johnstone and Richard Melling respectively, each costing £95.

In anticipation of the throughout opening of the line, large orders for rolling stock were placed by the SA&M on 7th May 1845. These included 20 cattle wagons, to be built by William Harmer at £83 each, 'to be fitted with spring buffers and drawbars, to answer occasionally for passengers'... no doubt for the excursionists, first described as 4th class in the 1846 returns of the railway, over 312,000 being carried in that year. On the same date the Board decided that no further coal wagons were to be ordered, 'the Company having now determined that coal owners must find their own wagons'. The Directors soon had second thoughts about this, however, for the resolution was rescinded on 29th October of the same year.

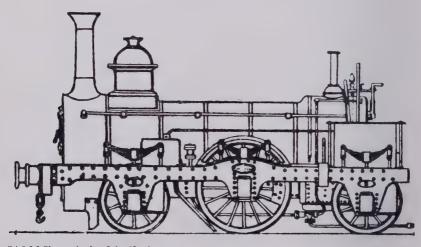
In Jee's account of his stewardship for the latter half of 1846, which was embodied in the Directors' Report to the MS&L proprietors for the first general meeting on 17th February 1847, it was shown that the SA&M

finished up with

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22 1st class carriages
33 2nd ,, ,,
58 3rd ,, ,,
573 goods wagons
332 coal wagons
46 cattle wagons
12 horse boxes
6 carriage trucks
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These figures tally closely with the records of orders placed by the Board save only as regards the goods and coal wagons, in which categories Jee's figures are some 300 and 200 respectively in excess of orders mentioned in the company's minutes. The possibility of error cannot be ruled out, for in the same report Fowler incorrectly stated that the Caistor branch was authorized in 1845. It was, however, much more likely that not all freight rolling stock orders were noted in the Board minutes, and it is also probable that the SA&M built some. It possessed a 'coach department workshops' at Guide Bridge, in the charge of foreman William Ellis, and it was there, no doubt, that some wagons were turned out during 1846, when the traffic offering was often in excess of the means available to handle it. There was also a carriage shed at Guide Bridge and others at Ashton and Newton.

No record remains of the horse drawn road parcels carts which it is known the SA&M used at the Manchester and Sheffield ends of the line. Nor, unfortunately, do any details appear to have survived of the boats which were taken over when the Humber Ferries Company was acquired by the GG&SJ in 1845. There is reason to believe, however, that of the vessels employed on the New Holland–Hull ferry service before the MS&L began to function two were named Falcon and Magna Charta.



SA&M Sharp single of the 'forties.

The Infancy of the MS&L

During the autumn of 1846 'the Gentlemen who will form the amalgamated Board of the Manchester, Sheffield & Lincolnshire Railway' met on three occasions. On 30th September, at Normanton, they laid plans for the coming year. These included the driving of a second tunnel at Woodhead, the promotion of branches to Thurgoland and Chapeltown and from Ashton to Oldham, and a renewed effort to get legislative sanction for the Barnsley line. On 15th October, at Sheffield, they gave some thought to the seal of the new company, and it was decided that 'a copy of the seals of Manchester, Sheffield, Lincoln, Grimsby and also the Great Grimsby Dock be submitted to Mr Wood of the Herald College and that he be requested to furnish a design'. Wood was the Lancaster Herald, and it is worthy of comment that this appreciation of matters heraldic by the MS&L was manifested by its successors the Great Central and the LNER which, almost alone amongst British railway companies, obtained grants of armorial bearings. On 12th November, again at Normanton, the design of seal 'with the rose in the centre' was adopted, as was the SA&M style of share certificate. The constitution of the new Board was also discussed. At this meeting Lord Worsley, who by this time had become the Earl of Yarborough on the death of his father, consented to take the chair, after a great deal of persuasion by his

Two Committees of Management were set up when the MS&L held its first Board Meeting on 6th January 1847. One known as the Western Section Committee, to deal with former SA&M affairs, consisted of Lord Yarborough, Blake, Chapman, Ellison, Matley, Randall, Turner and St John Yates. The other, designated the Eastern Section Committee, and composed of Lord Yarborough, de Bartolomé, Ellison, Heneage, Jobson Smith, Thorold, Wall, Williams and Woodcroft, was to handle matters arising on the remainder of the system. Jee remained Engineer-in-Chief of the ex-SA&M lines and Fowler continued in a similar capacity for the lines being built under the aegis of the Eastern Section Committee. Meadows became the Secretary and Humfrey the Assistant Secretary. All other officers were confirmed in their existing positions, but Allcard succeeded Saville & Murgatroyd as track maintenance contractor for a period of five years.

As a result of pressure from a group of influential Rochdale shareholders some changes in the directorate took place on 17th February. Matley, Wall and St John Yates resigned, and the election of Thomas Gisborne, M.P., John Gouldesborough, Charles Haigh and John Whittaker restored the

¹ Peeps into the past 1781-1871 by Thomas Asline Ward (Sheffield Library).

strength of the Board to 16, as given in the Act. Charles Holland and Richard Whitehall Coates became additional Directors a month later, by which time further Directors' Committees, for Traffic, Land & Compensation, Finance, Grimsby Docks and Parliamentary matters, had been set up.

By this time the first Rule Book of the MS&L, described as 'Bye-Laws for the Government of the Company's Servants', had appeared. It contained 82 pages of instructions for the staff, most particularly the clerks in charge of stations, enginemen and firemen, guards, porters, gatemen, policemen, pointsmen and platelayers. But it is of particular interest because one can obtain from amongst the 36 rules for enginemen and firemen a picture of the latter-day SA&M and early MS&L signals. These were provided separately for the up and down lines and consisted of a pillar on which was pivoted a disc, red on one side and green on the other. When the edge of the disc faced an oncoming train it indicated that the line ahead was clear; display of the green face of the disc (always given when a preceding train or engine was less than 10 minutes ahead) denoted caution; and when the red face was exhibited the engineman had to stop at once. White, green and red lights were used to convey these respective aspects at night and in foggy weather. A train preceding a special or extra train carried on its rear a red board and, at night, an additional red tail lamp. And there were two guards on each passenger train, the head guard seeing to the way-bill and ensuring that every passenger had a ticket and travelled accordingly, the second guard being responsible for the luggage and parcels.

The MS&L had perforce to commit itself to considerable expenditure on behalf of its component companies during the early part of 1847. In February

alone the following contracts were placed:

Contract	Contractor	Value
S&LJ main line from Woodhouse to Retford S&LJ main line from Retford to Gainsborough GG&SJ branch to Market Rasen Second tunnel at Woodhead 6 locomotives and tenders 697 freight wagons of various types	Miller & Blackie John Waring & Sons John Waring & Sons George C. Pauling W. J. & J. Garforth 13 different firms	£ 125,564 112,000 44,987 147,680 15,600 52,700 (approx)

totalling nearly $£\frac{1}{2}$ million. Orders for 15,000 tons of rails, 5,400 tons of chairs and 220,000 rectangular timber sleepers accounted for an additional £242,800. The contract for the New Holland pier and works associated with it went to John Linn for £70,457 in April, and in the same month Bowden & Edwards were given an order for a new coal and cattle station at Ardwick for

¹ Printed 1846 by Bradshaw & Blacklock of 27 Brown Street, Manchester.

£17,300. In May Miller, Blackie & Shortridge made a start on the heavy engineering work involved in carrying the main line on a viaduct eastwards through Sheffield; the same contractors already had in hand the next section onwards to Beighton.

There was considerable competition for the work of constructing the stations on the lines from New Holland to Grimsby and to Lincoln which, because of the lighter engineering works involved, it was expected would be ready for use before the Sheffield–Beighton section. Charles Kirk of Sleaford put in a tender for £36,000 (this including 27 level crossing houses) which was accepted in July; it was stipulated that Ancaster stone was to be used for the buildings. The architects for the stations were Weightman & Hadfield, whose charges were met by Fowler, to whom the MS&L arranged to pay £370 per mile for the engineering and architectural work on all authorized lines east

of Sheffield up to the date of completion.

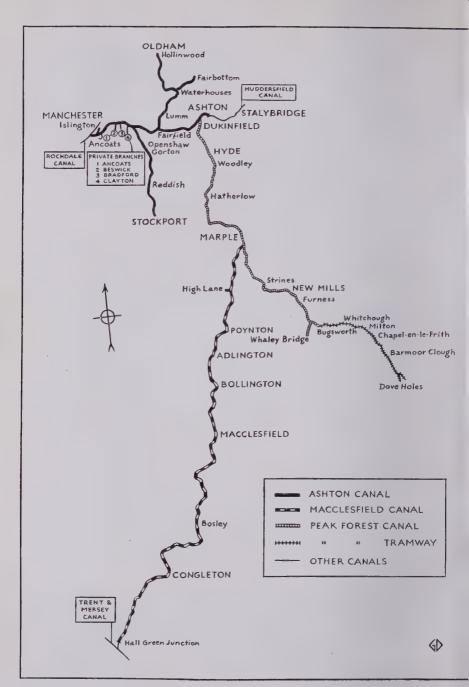
The MS&L got powers for three short lines, and was unsuccessful in the case of a fourth, during the Parliamentary Session of 1847. On 2nd July a line from Bugsworth, on the Whaley Bridge branch (then under construction), to the Peak Forest Tramway at Bradshaw Edge, was sanctioned, Buxton being the ultimate objective. In common with the Wragby branch from Stainton, which was authorized in the same Session, it was destined never to be built. The third was a double track colliery branch of 2 miles from Thurgoland to Stainborough, for which powers were obtained on 9th July; this was built by Miller & Blackie and opened on 22nd November, when members of the Traffic Committee travelled over it, the only new MS&L line to be brought into use during 1847. The original intention to carry it on to Chapeltown had been thwarted by the Sheffield, Rotherham, Barnsley, Wakefield, Huddersfield & Goole Railway, which had also opposed the annual attempt to get sanction for the Barnsley branch; the Bill for the latter passed the Commons but was held up in the Lords, and it was not until 22nd July 1848 that the long awaited Royal Assent was obtained. The unsuccessful short line was the proposed branch from Guide Bridge to Oldham. Parliament favoured the alternative Oldham Alliance Railways' Bill for a series of local lines, including one to Guide Bridge, but conceded a junction to the MS&L at the latter place and facilities thence into Oldham.

In the same Session the MS&L was granted powers to sell the surplus waters of the Peak Forest and Macclesfield Canals to Manchester, Salford and Stockport for domestic purposes, thus giving legislative authority to a practice which the SA&M had initiated. The water was sold at the rate of

2d per 1,000 gallons.1

At this juncture it would be appropriate to survey the various canals which by now had come into the possession of the MS&L. The oldest was the Chesterfield Canal which, forming part of the Manchester & Lincoln Union Railway, became a component of the MS&L on 9th July 1847. It had been incorporated as long ago as 28th March 1771 under the name of 'The

¹ Railway Times, 22nd April 1848,



Company of Proprietors of the Canal Navigation from Chesterfield to the River Trent', and extended from Chesterfield to Stockwith, a distance of $45\frac{1}{2}$ miles. It contained 65 locks and 2 tunnels, at Drakeholes and Norwood, the latter being no less than 2,893 yards in length. From the S&LJ was inherited the Sheffield Canal, incorporated in 1815, which was acquired towards the end of 1846 for a perpetual annuity of 50s per share; it ran for four miles to Tinsley, was vested in the MS&L on 22nd July 1848, and transferred to the Navigation of the River Dun under an Act dated 28th July of the following year.

The major contribution came from the SA&M, represented by the Ashton, Macclesfield and Peak Forest Canals, all of which had been purchased on 25th March 1846 on the following terms:

Ashton Canal		
Annuity	. £12,363	3
Interest on debt of £12,000	. 540	
Macclesfield Canal		£12,903
Annuity	£6,605	
Interest on debt of £60,000	. 2,919	
Peak Forest Canal		£9,524
	· £9,325	
Interest on debt of £41,000	. ~ 1,856	
		£11,181
		Caa 6a9
		£33,608

The two last named had been incorporated in the SA&M on 27th July 1846. Constructed under Acts of 1791 and 1792, the Ashton Canal consisted of a main line from Ashton-under-Lyne to Manchester, linking the Huddersfield and Rochdale Canals and, with branches to Oldham (including a spur to Fairbottom), Stockport and Islington (Ancoats), totalled nearly 18 miles in length. There were 18 locks on the main line and 7 on the Oldham branch. It was vested in the MS&L on 22nd July 1848. The Macclesfield Canal, which had been built under an Act of 1826, connected the Trent & Mersey (owned by the North Staffordshire Railway) and Peak Forest Canals, and had a main line of 26 miles containing 13 locks; there was a short spur of 1 mile at High Lane. The Peak Forest Canal, it will be remembered, was involved in the earliest attempts to improve transport facilities between Manchester and Sheffield. It was incorporated on 28th March 1794, one of the proprietors being Samuel Oldknow, High Sheriff of the County of Derby. First brought into use in 1797, save for the Marple locks which were opened six years later, it possessed a main line of 142 miles from Dukinfield Bridge (on the Ashton Canal) to Bugsworth, with a 1 mile branch to Whaley Bridge at the latter end. During the time the locks at Marple were under construction an inclined plane tramway took their place. There were 16

¹ Closed 1908, owing to collapse brought about by colliery subsidence.

locks altogether, 2 tunnels (at Woodley and Hyde Bank) and an imposing

aqueduct at Marple, carrying the canal over the River Goyt.

The Act authorizing the construction of the Peak Forest Canal also sanctioned a 'communication by Railways or Stone Roads' from Bugsworth onwards to Load's Knowle (Dove Holes), less than three miles from Buxton. This projection of the canal's sphere of influence south-eastwards, to get access to carboniferous limestone and lead mines, was obtained by a six miles tramway, for the intervening country was too difficult for canal engineering; at Load's Knowle a summit level of 1,139 feet was attained. Both canal and tramway were constructed under the direction of Benjamin Outram.

From Bugsworth the tramway rose 206 feet in three miles to Chapel-en-le-Frith on an average gradient of 1 in 80. Then followed an inclined plane about 500 yards long, lifting it a further 209 feet on a gradient increasing roughly from 1 in $8\frac{1}{4}$ to 1 in $6\frac{1}{4}$. From the top of the plane the line climbed a further 206 feet on an average gradient of 1 in 60 to the boundary of the township of Peak Forest, thence falling by two branches to the various limestone quarries and lime kilns served. According to Abraham Rees' *Cyclopaedia* the Peak Forest Tramway was completed on 1st May 1800¹, although it is believed that it was in use from 1797 onwards as a single line; it had been doubled by 1803, save through the 100 yard tunnel near Chapel-en-le-Frith and on bridges.

Constructed to a gauge of 4 feet $2\frac{1}{2}$ inches, 2 the cast iron L section rails, 3 feet in length and 56 lbs in weight, possessing a tread 3 inches wide and $\frac{3}{4}$ inch thick, and a flange 2 inches high and $\frac{1}{2}$ inch thick, were laid on stone blocks 18 inches square by 12 inches deep, spaced at 3 feet centres. A hole $1\frac{1}{2}$ inches in diameter and 8 inches in depth was drilled centrally in each stone block, upon which rested a cast iron saddle with low flanges each side and a corresponding hole in the centre; through this an oak plug was driven into the hole in the block. The rail-end was secured to the saddle by an iron spike hammered through a countersunk hole in the tread into the oak plug. To overcome the rail breakages which were encountered the road was relaid in the 'sixties with steel rails of the same weight per yard, but in lengths of 9 or 12 feet, rolled at Gorton Works.

The wagons used on the tramway varied in weight from 16 to 20 cwts and had a capacity of 2 to 3 tons. They were carried on four flangeless wrought iron shod timber wheels (and, later, cast iron wheels), spaced at 2 teet 9 inches to 3 feet 6 inches centres, running loose on cart type axles, to which they were secured by flat lynch pins. The specimen preserved in the Railway Museum at York is one of the smaller varieties, possessing cast iron wheels of 17% inches diameter.

On the sections above and below the inclined plane the loaded wagons, in trains of 16 to 40, proceeded down to Bugsworth by gravity, being accom-

¹ The usually accepted *completion* date. In the *Derby Mercury* of 8th September 1796, it was stated that the tramway 'from the lime works at Bugsworth and the canal thence to Marple'—about 12 miles—'was opened on Wednesday 31st August 1796.'

² Great Central Railway Journal, Vol. I (December 1905).



Peak Forest canal basin, warehouse and tramway sidings at Bugsworth.

[LNER photo taken in August 1927]



Peak Forest tramway track, switch and wagon.

[LNER photo taken in August 1927]

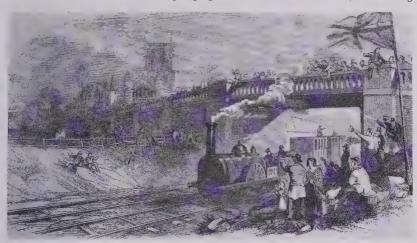
panied by a brakesman who rode on an axle pin of one of the leading wagons. Speed was restricted to a brisk walking pace by spragging a sufficient number of wheels with the short chains, with hooks at the ends, which were attached to each wagon. Horse traction¹ was employed for bringing back the empties and, to give a good foothold, the permanent way was cobbled between the stone sleeper blocks. The inclined plane was rope worked from an engine house at the top and the practice of balancing loaded wagons with empties was followed, with a maximum limit of eight of the former. For this reason a large yard was provided half a mile east of Chapel-en-le-Frith for storage of traffic awaiting barges at Bugsworth. In the yard were located stables, stores and other offices. At Bugsworth itself were further extensive sidings serving the canal basin and its loading berths.

Towards the end of 1847 the MS&L found itself increasingly short of money and Jobson Smith was empowered to negotiate a loan of £250,000. Deliveries of locomotives were decelerated, certain works in hand, such as new stations at Fairfield and Guide Bridge, were arrested, and Gretton and Eborall were told to wage an economy campaign, both as regards staff and services. Because of this the stations at Dog Lane, Hazlehead, Oxspring and Thurgoland were closed to passenger traffic as from 1st November. Only one new station was opened during the year, at Dinting, at the point where the Glossop branch joined the main line. It replaced the original Dinting station, which was located $\frac{3}{4}$ mile nearer Manchester, and was brought into use on 1st February. Local petitions for stations at Audenshaw and Wharncliffe were declined.

Meantime, progress was maintained with the construction of the line between Grimsby and New Holland, the latter so called because the creek upon which the station was erected had been formerly much used by smugglers for running their cargoes of hollands. As the Grimsby–Louth line of the East Lincolnshire Railway (now leased to the Great Northern) was also nearing completion it was arranged for the two to be opened simultaneously to the public on 1st March 1848, and for the service between New Holland and Louth to consist of through trains provided on a 50/50 basis. To improve the connecting New Holland–Hull ferry service at minimum expense the MS&L purchased two secondhand iron steam boats, *Queen* and *Prince of Wales*.

Early on Leap Year Day 1848 some of the MS&L Directors set out from Hull for New Holland in one of these newly acquired steamers. 'The passage was effected in a quarter of an hour', commented the *Railway Chronicle* and continued, 'At New Holland we first touch upon the works. A pier, 1,500 feet in length extends into the water, and will not only enable passengers to embark and disembark at all times of the tide, but form a continuation of the station and platform. It will be covered, and lighted with gas, and the rails of the New Holland line will be continued to the extremity. . . . A dock of three acres, bounded by another pier, also provided with double lines of

¹ Thirty-five horses were recorded at work in 1860.



The first MS&L train to enter Grimsby, on Leap Year Day, 1848.
[Illustrated London News

rails, is in a forward state, for the exclusive accommodation of merchandise and cattle. The directors and their friends, after examining the station, proceeded to the Yarborough Arms for breakfast. At 10.0 a.m. the party took their places in a train of five carriages for Grimsby, a distance of 16 miles'. Grimsby was reached at about 10.45 a.m., where the party was welcomed by the Mayor and other civic dignitaries and some of the East Lincolnshire directorate. An inspection of the line thence to Louth was carried out, prior to the usual dinner celebration at Grimsby.

Public traffic began the following day, in accordance with the timebill illustrated on page 120, from which it will be noted that there were five intermediate stations between New Holland and Grimsby, at Goxhill, Ulceby, Habrough, Stallingborough and Great Coates. Another station, Thornton Curtis, situated between Goxhill and Ulceby and $4\frac{1}{2}$ miles from New Holland, was brought into use a little later, appearing for the first time in *Bradshaw's Guide* in June and remaining there up to and including the November 1848 issue of that publication. Thornton Abbey, its successor located $\frac{1}{2}$ a mile nearer New Holland, made its debut in the pages of the famous guide in the August 1849 issue.

About 34 staff were needed for the new line, the majority being located at the two terminals, and some of the level crossings were 'manned' by platelayers' wives. Hargreaves, formerly station master at Sheffield, was appointed Superintendent of this presently isolated outpost of the MS&L.

In the following August a contract for the line from Clarborough junction to Sykes junction, which was now officially described as the Leverton branch, was given to Peto & Betts for £80,000. At the same time the tenders of James Drabbe of Carlton for the main line stations from Woodhouse to west of

MANCHESTER, SHEFFIELD, AND LINCOLNSHIRE AND EAST LINCOLNSHIRE RAILWAYS.

HULL TO LOUTH.

TIMES OF DEPARTURE ON AND AFTER THE 1ST OF MARCH, 1848.

Down Trains fro	m	Lo	ath to	Hull.			Suc	day	Tre	ime.
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Louthdeparture		11		11 26	: 44 0	5 41	9	11	5	11
North Thoresby		17		11 32		5 47	9	17	5	17
Holton le Clay		23		11 38		5 53	9	23	5	23
Waltham .		29		11 44		5 59	9	29	5	29
Great Grinsby		39	~ 57	11 54	4 27	6 9	9	39	.5	39
Great Coates		45		12 0		6 15	9	45	5	45
Stallingborough		52	*** ***	12 7		6 22	9	52	5	52
Habrough		1		12 16	****	6 31	10	1	6	1
Ulceby		7		12 22		6 37	10	7	6	7
Goxhill		16		12 31		6 46	10	16	6	16
New Holland	. 7	20	9 28	12 35	4 5h	6 50	10	20	6	20
			10 0	1 15	5 30	7 15	1.11	0.1	7	0
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Hull	1, 2, 2 Part 7 7 8 8 8 8 8 8 8 8 8 9 9 9	Hull & 3 iamy. M. 10 0 7 16 21 30 37 45 53 59	A. A. 9 50 11 0 11 16 11 21 11 30 11 37 11 45 11 59	P. M. 12 15 1 150	1 & 2 P. M. 2 45 3 45 3 52 4 1 4 6 4 14 4 21 4 29 4 37 4 437	7 35	1, 2, Parti	& 3 amy. M. 0 7 16 21 30 37 45 53 59	5 5 5 5 5 5 5 5 5	M. 0 7 16 21 30 37 45 53 59

The STEAM PACKET leaves HULL Half-an-hour before the advertised Time of Departure of the Trains from New Holland.

Passangers are recommended to be at the Stations Five Minutes earlier than the time specified.

No Passenger can be re-booked by the same Train at any intermediate Station.

The Company will only hold themselves responsible for Luggage when it is booked and paid for according to its value; but they strongly recommend passengers to bave their names and destination, in all cases, legibly marked thereon.—First and Second Class Passengers allowed 1 cwt. free of charge; Third Class Passengers allowed 60ths.

Children under 3 years of age conveyed free, and those above 3 and under 12, conveyed at Half-Fare.

MANCHESTER, JANUARY 28, 1848.

BY ORDER.

Hull-Louth train service handbill of 1848.

Retford, and of Thomas Hutchings & Company of Anston for those from Retford to west of Gainsborough, were accepted; the biggest items in these contracts were Worksop station and warehouse, £7,850, and Retford station,

carriage shed and warehouse, £10,710.

The public opening of the next sections, from Ulceby to Brigg, with intermediate stations at Brocklesby and Barnetby, and from the latter place, via Moortown, Holton and Usselby to Market Rasen, took place on 1st November. The extension from Market Rasen to Lincoln was brought into use on 18th December; this section was provided with stations at Wickenby and Langworth. There was 'no public feasting at the expense of the share-holders' said the Railway Record five days later, and it also observed that 'Brocklesby station is a very chaste erection in the pure Elizabethan style'. The absence of official junketing did not damp the spirits of the local inhabitants along the line. The Barrow brass band accompanied the first train from New Holland to Lincoln, which left at 9.0 a.m., fifteen minutes after the mail train to Grimsby, and played at all stations. The first train from Lincoln to New Holland left at 7.15 a.m. with 15 carriages, in which were go boys of the Blue Coat School, 20 of whom were musicians who, with another band from Lincoln, 'contributed no little to the hilarity of the day'.

Throughout this period of development the MS&L was bedevilled by persistent shortage of money, for the Railway Mania was over and the inevitable slump had followed. Yet it could hardly hope for better times until its main line was completed. Further economies had to be made. In September it was decided to close the office at Sheffield as quickly as practicable and transfer the work done there to Manchester, the move being completed in the following month. Manchester now became the recognized headquarters of the company, much to the chagrin of those who contended that Sheffield was the rightful centre of the system. Towards the end of November the construction of the Whaley Bridge branch was brought to a standstill.

Lord Yarborough had proposed earlier in 1848 that the strength of the Board should be reduced to twelve, with total fees of £1,200 per annum, and that a General Manager should be appointed. The second part of his proposal was adopted first, after some of the Directors had thoroughly examined the company's organization. At their meeting on 1st November James Meadows became the first General Manager of the MS&L and Humfrey succeeded him as Secretary, their enhanced salaries of £800 and £500 respectively applying as from 1st January 1849. The post of Assistant Secretary was abolished and Robert Smith was given the new appointment of Canal Manager at £300 a year. Meadows' tenure was short-lived. He resigned on 21st December, for reasons undisclosed, and the post of General Manager was to remain unoccupied for a year, the main burden of the work largely falling upon Eborall and, to some extent, upon Gretton. On 10th April 1840 the former became Traffic Manager, with charge of both goods and passenger affairs, and the latter Superintendent of the Line. A few weeks before this change took place James Potter succeeded George Ellis as Resident Engineer.

The first part of Lord Yarborough's proposal was ratified at the half yearly meeting of proprietors on 28th February 1849 whereupon the reduced Board consisted of

Lord Yarborough Dr M. M. de Bartolomé Thomas Blake John Chapman Michael Ellison Charles Haigh George F. Heneage Charles Holland Richard Thorold Charles Turner John Whittaker George M. Williams

Holland and Haigh resigned, owing to pressure of other work, on 24th September and were replaced by Thomas Greig and Samuel Lees.

Despite continued financial stringency, the MS&L was completed during 1849 as originally conceived, except for the new station at Sheffield, the Leverton branch and the dock works at Grimsby. Howsham, North Kelsey, Snelland and Reepham stations on the Barnetby-Lincoln line were opened for passenger and goods traffic on 1st February. Eleven days later, the section from Sheffield to Beighton, where connexion was made with the Midland. was brought into use, a train consisting of a locomotive and two carriages having first traversed it on 16th December of the previous year, Darnall (originally spelled with one 'l') was then the solitary intermediate station. The Midland agreed to MS&L passenger trains working through to Eckington on the conditions that it was relieved of the expense of providing, signalling and operating the junction at Beighton (which, however, would be under its control) and that the MS&L installed a turntable at Eckington, as it was a Midland rule that locomotives must not run tender first. A week-day service of eight up and seven down trains, and four each way on Sundays, was put on between Sheffield and Eckington, the all-stations trains taking 28 minutes.

Next to be opened to the public was the single line branch to Barton, which stemmed from a triangular junction at New Holland. This took place on 1st March and the service provided consisted of five weekday and three Sunday trains from Barton to New Holland and six weekday and two Sunday trains in the reverse direction¹. On 2nd April the penultimate link in the main line chain was completed by the opening of the section between Brigg and Gainsborough, with stations at Scawby & Hibaldstow, Kirton Lindsey, Northope and Blyton. The day was observed as a holiday in Gainsborough, where the leading inhabitants of the town and its environs gave a banquet at the White Hart, presided over by William Hutton to the Directors and principal officers of the railway.2 New Holland was now brought within I hour 27 minutes of Gainsborough by a service of four daily trains (one up and two down on Sundays), and Grimsby could be reached nearly as quickly by changing at Ulceby. Here was another triangular junction, the eastern side of which had been in use in advance of the Parliamentary sanction obtained for it on 22nd July 1848.

² Railway Record, 7th April 1849.

 $^{^1}$ The solitary intermediate station at Barrow Haven, $2\frac{1}{8}$ miles from Barton, was opened on 8th April 1850, according to the *Great Central Railway Journal* of September 1910.



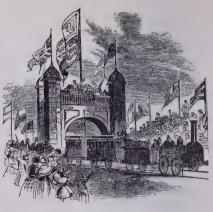
Prince Albert leaving Brocklesby station on 17th April 1849 for the seat of the MS&L Chairman. [Illustrated London News

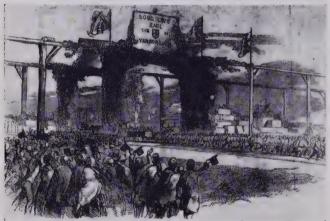
Early on Tuesday morning, 17th April, Prince Albert left Windsor by road and, joining a special train at Watford at 8.50 a.m., proceeded to Lincoln by way of the London & North Western and Midland Railways. His mission was to fulfil a promise he had given in the previous year to lay the foundation stone of the New Dock at Grimsby. On arrival at Lincoln he was received by Lord Yarborough and the Mayor and Recorder. The train, now hauled by MS&L locomotive No. 65, named Prince Albert in honour of the occasion, and driven by Fowler, assisted by Peacock, took the Prince on to Brocklesby, the station for the seat of the Chairman, where he was to stay overnight. At this point in its description of the journey the Sheffield & Rotherham Independent unexpectedly interpolated 'It may be interesting to scientific readers to know that the Royal coaches, and all the other carriages in the Royal train, were fitted with Normanville's new patent axle boxes, which have been tested to run 9,000 to 10,000 miles without greasing'. The Editor evidently had axleboxes to grind!

The following day the Prince left Brocklesby Hall at noon and rejoined the special train which, exactly an hour later, rolled under a triumphal arch at Grimsby station, where he was welcomed by the Mayor and other civic dignitaries. It then proceeded to the entrance to the docks, passing under two more triumphal arches which, together with the dock works, were

¹ The patent rights were purchased by the MS&L for £1,350 early in 1852.







The Royal visit to Grimsby Docks, 18th April 1849, as depicted by the *Illustrated London News*.

Prince Albert's train passes under a triumphal arch at Grimsby station (top, left), and under another at the entrance to the dock works (top, right).

Above: A hundred navvies take the place of the 'steam automaton'.



Right: The first stone is laid.

liberally embellished with legends such as 'Welcome to Prince Albert', 'God save the Queen', 'Prosperity to the Manchester Sheffield & Lincolnshire Railway and Great Grimsby Docks' and 'Long Live the Earl of Yarborough'. Now 'the steam automaton was unhitched' and 100 navvies, smart in 'short white smocks and nightcaps' drew the train forward, by means of a stout cable with cross staves, to the amphitheatre where the ceremony was to be staged.

Throughout the morning trains and boats, crammed to capacity, had been decanting human cargoes at Grimsby, and the amphitheatre was crowded by the time the Prince was due to arrive. The spectators had been drenched by a ten-minute cloudburst, but the downpour had ceased before the Prince and his entourage descended to the scene of action, accompanied by a roar of

cheering and the booming of a Royal salute.

The stone forming the centrepiece of the ceremony was destined to become part of the structure carrying one of the lock gates. It measured 4 feet wide, 4 feet 6 inches thick, 8 feet long and weighed 11 tons. On its eastern side was a cavity into which, during the proceedings, were deposited a scroll and a glass vase containing coins ranging 'from a £5 piece to the fraction of a farthing'.¹ This cavity was sealed by a copper plate suitably inscribed. The elaborate trowel with which Prince Albert spread the mortar was designed by W. F. Spencer and executed in silver by Garrard of Haymarket, London.

After the stone had been laid the Sheerness squadron of the Royal Navy anchored in the roadstead fired several salvoes. The Bishop of Lincoln delivered an impressive prayer and this was followed by the National Anthem and more salvoes. The Prince and Lord Yarborough, together with some 1,000 guests, then adjourned to a pavilion erected nearby wherein Bathe & Breach, of the London Tavern, had laid out luncheon. With this concluded Lord Yarborough successively toasted 'The Queen' and 'His Royal Highness'. In his response the latter said 'We have been laying the foundation of a dock, not only as a place of safety, refuge, and refitment for our mercantile marine, and calculated to receive the largest steamers of Her Majesty's navy, but it may, and I trust it will, be the foundation of a great commercial port'. He concluded his remarks with a toast in these words, 'Let us implore the Almighty God to bestow his blessing on this work, under which alone it can prosper. I give you "the Great Grimsby Dock and the Health of the Chairman and Directors of the Dock Company".' This was received with acclamation, and he and Lord Yarborough then withdrew. When the latter returned a great many more toasts were given. Meantime, Prince Albert returned to London in his special train by way of Boston, Peterborough and Euston Square. But the navvies in the short white smocks and night caps were not forgotten; the Prince sent them £50.

With such a Royal visit to its credit, the MS&L Board doubtless feit that anything short of an opening by Queen Victoria of the last section of the main line would be in the nature of an anti-climax. In any case, the expense of the

¹ Illustrated London News, 21st April 1849.

THROUGH AND CONNECTING TRAIN SERVICES AND FARES BETWEEN HULL AND MANCHESTER

JULY 1849

(From MS&L advertisement in Railway Record)

DOWN TRAINS		WEEKDAYS SUNDAYS									
Great Grimsby Brigg London LNWR ECR St. Ives Huntingdon Ely Cambridge Norwich Peterborough Boston Lincoln Cainsborough Retford Worksop Sheffield	1 & 2 a.m.	a.m. 60 6 15 7 12 60 7 14 7 56 8 19 8 38 8 38 9 24	a.m. p 9 19 9 19 10 18 7 20 8 44 10 9 10 55 11 17 11 35	40 40 35 6	n. p.m. 45 3 15 48 3 15 57 4 23 7 10 14 10 35 10 20 1 2 25 1 45	p.m	1, 2 & 3 p.m. 5 45 5 5 40 6 57 11 0 11 30 2 40 2 25 1 48 11 0 5 40 6 58 11 0 8 59	8 0 9 55	8 15 8 38 9 32 8 5 9 30 10 16 10 39 10 57 11 44 1 39	1,2 & 3 p.m. 3 15 4 27 7 30 10 35 9 50 62 40 2 10 3 35 5 34 5 53 8 34	5 45 5 40 6 57 8 4 8 22 8 59
UP TRAINS		WEEKDAYS					SUNDAYS				
Liverpool Lime St. Manchester Sheffield Worksop Stefferd Gainsborough Lincoln Boston Peterborough Cambridge Ely Huntingdon St. Ives London ECR London ECR Great Grimsby Great Grimsby Hull	1,2& a.m 1,2& a.m	a.m. 6 5 8 0 4 8 44 9 24 10 8 3 11 33 7 12 50 0 0 10 10 7 11 33	a.m. 9 0 10 30 12 14 12 48 12 48 1 1 25 3 2 40 4 15 5 39 10 40 7 42 6 55 7 3 9 50 2 4 8 2 4 8 2 4 9 4 15	11 30 1 25	1 & 2 a.m. 10 40 2 0 4 5 2 5 24	1 & 2 p.m. 0 3 45 5 36 6 10 6 28 6 47 7 38 3 10 48	1, 2 & 3 p.m. 4 30 6 0 7 55	8 10 8 49 9 7 9 29 10 15	1,2 & 3 a.m. 6 45 8 20 10 25 11 4 11 22 11 44 12 30 2 3 37 8 35 6 5 5 24 9 40 12 30 1 25 1 40	1,2&3 p.m. 2 0 4 5 4 44 6 8 7 33 6 10 7 10 7 20	1,2&3 p.m. 6 0 7 55
	By ex	ARES BE press trai		HULL Af Ist 20/8d. 18/6d.	ND MAN 2n 16/- 14/6	d -	R 3rd 9/3d.				

dock celebrations and all that they entailed cannot have been small. And so the formal opening of the final link, from Woodhouse junction, on the Sheffield -Beighton junction section, to Gainsborough, took place quietly on 16th July, having been passed by Captain Wynne five days previously. A special train conveying the Directors, accompanied by colleagues from the London & North Western Board, left Liverpool at 9.30 a.m. and reached Grimsby at 2.30 p.m., the day ending with dinner at the Yarborough Arms, New Holland, presided over by Chapman. The line was opened to the public on the morrow and the through and connecting train services advertised at the time are given on page 126. Stations were provided at Kiveton Park (which it was originally intended should be named Dog Kennels), Shireoaks, Worksop, Retford and Sturton; Woodhouse Junction station was not constructed until the following year and it first appeared in Bradshaw's Guide of October 1850. According to reports in contemporary railway journals the cost of the lines east of Sheffield had so far averaged £18,000 a mile, including stations.

A station at Hazlehead was brought into use again at the beginning of the following month. The suffix 'Bridge' was added in November 1850, when it was shown in Bradshaw's Guide as Hazlehead in the down table and as Hazlehead Bridge in the up, a curious discrepancy which persisted for some months.

The MS&L's connexions with other railways in the growing network of lines around Manchester were greatly improved during 1849. On 22nd May the MS&L and Lancashire & Yorkshire had agreed to lay in at equal expense a double junction between their existing branch lines at Stalybridge. It was also decided that a joint passenger station, but with separate booking offices, should be put up on the site of the MS&L passenger station, and that a joint goods depot, with separate warehouses, should take the place of the L&Y station. The local passenger traffic between Stalybridge, Ashton and Dukinfield on the one hand and Manchester on the other was to be coordinated and the receipts pooled. The $\frac{1}{4}$ mile connexion between the two railways was completed on 1st July. On 1st August two new junctions with the London & North Western were brought into use, at Stalybridge station, end-on with the line from Huddersfield (formerly Huddersfield & Manchester Railway & Canal Company), and at Guide Bridge station, with the line from Heaton Norris.

These local openings were accompanied by another of even greater importance to the MS&L, namely that of the first portion of the Manchester South Junction & Altrincham Railway between Manchester (Oxford Road) and Altrincham. This took place, without any ceremonial, on 20th July,² the first trains setting out from each end of the line simultaneously at 8.0 a.m.

As mentioned in Chapter IV, the MSJ&A had been evolved by the SA&M

Herapath's Journal, 21st July 1849.
 An official booklet issued in 1899 to commemorate the Jubilee of the opening incorrectly gave the date as 21st July 1849. The date of incorporation was also erroneously shown as 25th July 1845.

and Manchester & Birmingham Railways in 1844. It comprised the South Junction main line 'dog' of 13 miles from the M&B at Store Street station to the Liverpool & Manchester Railway at Liverpool Road junction, near Ordsall Lane, wagged by a branch line 'tail' of 73 miles from Castlefield junction, near Knott Mill, to Altrincham. The Act authorizing its construction, under which it was empowered to raise a capital of £400,000, was passed on 21st July 1845. It was promoted as an independent company, the bulk of the capital being subscribed by the SA&M and M&B, but £50,000 worth of shares had been allotted to the Earl of Ellesmere, Lord Francis Egerton, whose interest in the 'swift packets' then plying on the Bridgewater Canal was likely to be affected adversely by the Altrincham line; in return he promised to withdraw the packets the day the line was opened. Under an Act passed on 2nd July 1847, however, the London & North Western (successor to the M&B) was authorized to buy the Earl of Ellesmere's interest and the MS&L (successor to the SA&M) was permitted to participate equally in the purchase.

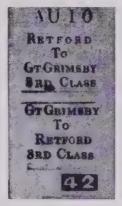
The LNWR and the MS&L thus became sole owners of the MSJ&A and to its Board each appointed three directors; at the time it was opened, Matthew Lyon, William Rawson and Edward Tootal represented the former and John Chapman, John Whittaker and Charles Turner the latter. The Board nominated a chairman with a casting vote at alternate meetings. As a result, every contentious decision was reversed at the next meeting, an absurd state of affairs which was allowed to continue for several years until somebody had the intelligence to suggest the appointment of a referee. Thus it came about that under an Act of 23rd July 1858 a standing arbitrator was authorized to attend the Board meetings and affirm, modify or negative such resolutions as, up to that time, depended upon the casting vote of the chairman, this vote being abolished. Inevitably, the arbitrator became akin to a

dictator, but common sense at last prevailed.

Ground was first broken at Castlefield for the construction of the MSJ&A about six months after the passing of its Act of Incorporation. The Engineer-in-Chief was W. Baker and the Resident Engineer Henry Hemberow. The South Junction line was carried entirely on viaduct or cast-iron bridge, absorbing 300,000 cubic feet of stone, 50 million bricks and 3,000 tons of cast and wrought iron. It traversed 28 streets, canals and streams in Manchester and was the heaviest and most difficult part of the undertaking. Its contractor was David Bellhouse of Manchester. The Altrincham line contained one short tunnel, this being under the Chester Road at Old Trafford, and eighteen bridges, of which the principal one straddled the Mersey at Stretford, consisting of cast iron and supported on tubular girders. John Brogden of Sale was the contractor for this section.

Due to a variety of causes the work of construction was seriously delayed for eighteen months, but in 1848 authority was secured to increase the capital by £250,000 and progress was accelerated. After the completion of the first section in July 1849, the remainder of the South Junction line (London Road-Oxford Road and Castlefield junction-Liverpool Road junction)





The first 1st class ticket from Altrincham to Manchester (left) preserved in Altrincham Public Library. Its colour was pale green and it was issued on 20th July 1849. Alongside it is a slate grey MS&L 3rd class return ticket of the same year from the collection of C. R. Gordon Stuart.

was opened on 1st August, and the short extension from Altrincham to Bowdon¹ on 20th September. In the following month the MS&L's tenders for the provision of motive power and rolling stock were accepted. These embraced a charge of 9d a mile for locomotive power (each engine to run not less than 100 miles a day) and a sum representing 12½% per annum on the original cost of the 1st, 2nd and 3rd class coaches provided, 15% being applicable in the case of brake vans.

The headquarters of the line were at Oxford Road, where the first Secretary of the company, James Kirkman, had his office. Intermediate stations between Oxford Road and Altrincham were built at Knott Mill (originally spelt with one 't'), Old Trafford, Edge Lane (renamed Stretford in September 1849), Sale Moor (renamed Sale in 1856 and Sale & Ashton-on-Mersey in 1883), and Timperley. For nine years, from June 1856 until the end of May 1865, there was a station at Cornbrook. Brooklands, between Sale and Timperley, was opened in December 1859. From May to October 1857 a temporary station called 'Manchester Art Treasures Exhibition', south of Old Trafford, was brought into use and during the cricket seasons from 1862 to 1866 it appeared under the name 'Old Trafford Cricket Ground' in Bradshaw's Guide.²

Each of the eight original stations had a station master, and the remainder of the first operating staff consisted of 5 pointsmen, 3 guards, 2 gatemen, 3 policemen, 13 porters and a carriage cleaner, headed by an inspector. Between them they dealt with a daily train service of thirteen each way, and

¹ Closed 3rd April 1881 when Altrincham station was resited.

² Later still, from May to October 1887, it was in use under the name 'Exhibition'.

nine from Manchester and eight from Altrincham on Sundays, taking 30 minutes for the journey; a solitary 1st class only express train each way (8.40 a.m. ex Altrincham and 1.15 p.m. ex Manchester) on weekdays was 10 minutes faster. The throughout single fares were 1st class 10d, 2nd class 8d, and 3rd class 6d; by express the 1st class fare was 1s. Only a sparse train service was provided over the South Junction line from London Road to Ordsall Lane in connexion with the Liverpool trains, and the contribution made by the MS&L ceased on 30th September 1868. Other developments occurring on the MSJ&A after the middle 'sixties must remain to be dealt with in the next volume.

Discounting its share in the MSJ&A, the route mileage owned by the MS&L at the end of 1849 was made up as follows:

Main Lines Manchester (Arc Brocklesby – Gri							106½ 13¼
Branch Lines							
Stalybridge, Glos	sop an	d Th	urgola	nd an	d to 1	MR	
at Sheffield							$5\frac{1}{2}$
Beighton .							11
Lincoln via Marl	ket Ra	sen					29
Barton		•		•			$3\frac{3}{4}$
							1594
Canals							
Chesterfield .							$45\frac{1}{2}$
Ashton							18
Macclesfield .							$26\frac{1}{4}$
Peak Forest (incl	uding	tramv	vay)			•	21
							3
							1103

In July the Board authorized the running of cheap excursion trains from Manchester early on Sundays during the fine weather, 'returning at night so as not to interfere with the times appointed for public worship'. This soon drew a petition from the bishops and clergy and 'other inhabitants' of Manchester, for Sunday travel was still frowned upon in several quarters. It was 'laid on the table'!

At this time passengers' luggage was still conveyed to a large extent on the roofs of the carriages. Loading gauges for goods traffic had been installed by the SA&M early in 1843; now, more than $6\frac{1}{2}$ years later, Potter was ordered 'to place a gauge on the passenger line at every station, of the height of the Hattersley bridge, which is lower than any other bridge on the line by which damage to luggage is liable to happen'! Another measure in the interest of travellers was the trial given at the close of the year to the insurance scheme promoted by the Railway Passengers Assurance Society; it was finally adopted on 20th February 1850.

Civil Engineering Features of the MS&L Eastern Main Line

Although the eastern main line of the MS&L was not so stiffly graded as its western counterpart, as a comparison of the profiles on pages 56 and 134 will demonstrate, it was by no means devoid of heavy engineering features.

At the Sheffield end, immediately outside Bridgehouses station, began the viaduct known as the Wicker Arches, which carried the line eastwards for 660 yards across the valley of the Dun, its greatest stride being taken with a magnificent arch of 72 feet span across the Wicker Road. Its construction was marred by two accidents, both occurring during 1848. On 8th February a moveable crane and some scaffolding fell, killing four men; on 4th October one of the arches collapsed. When it was completed on 12th December 1848 the Wicker viaduct was claimed to contain a greater amount of masonry than any similar work in the country. Ashlar masonry to the extent of 250,000 cubic feet, supplemented by 70,000 cubic yards of rubble work, were needed after excavation to the tune of 34,000 cubic yards had been accomplished. The task included the foundations for the new Sheffield station, covering some four acres, which was not completed until 1851.

East of Darnall, at High Hazles, where the first sod of the S&LJ was cut, the line plunged into the 374 yards long Handsworth tunnel,¹ the only work of importance before reaching the Rother viaduct. This structure was built at an average height of 40 feet, measured 1,218 feet in length, consisted of 36 arches of 30 feet span and cost about £17,000.² It suffered a major collapse during construction. On 30th September 1848 one of the arches fell and was immediately followed by 14 adjoining it; after the elapse of a few minutes 6 more gave way in rapid succession, 'resembling a report of firearms', to quote a contemporary account, and causing considerable alarm locally. Three men were killed through this catastrophe, which was variously attributed to the premature removal of one of the centres and to insufficient foundations.

Continuing eastwards the line ran through the Wales cutting, which involved the removal of 400,000 cubic yards, to meet the Chesterfield Canal at Kiveton Park. Thence followed several dead straight stretches of track, two to five miles long, to Worksop, where there was erected the most architecturally elegant station on the railway; it was built of Steetley stone, taken

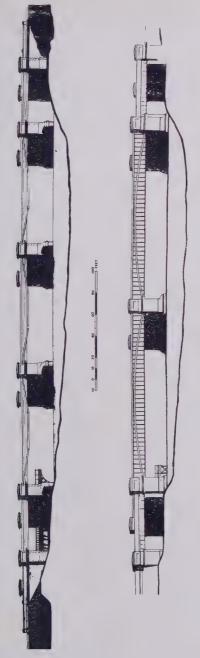
¹ Also known as Darnall tunnel and opened out during 1912.

from quarries some two miles away. The short-lived station at Retford was made of red and white brick, with mountings of Anston stone, and located about half-a-mile south of the market place, with which it was connected by an omnibus service. On 4th September 1849 the Great Northern opened the Doncaster-Retford line, running its trains into the MS&L station at the latter place until its own station there was opened on 1st August 1852, after completion of the Retford-Peterborough section of its main line, which crossed that of the MS&L on the flat. The two short connecting curves, shown in the map on page 183, were duly authorized by the Great Northern (Communication with Manchester, Sheffield & Lincolnshire Railway) Act of 24th July 1851; the same Act also permitted the Great Northern to run over the MS&L between Bole and Gainsborough, and the MS&L to enter the eastern end of the Great Northern station at Lincoln by means of a spur from Durham Ox junction on the line from Market Rasen. On 1st July 1859 the MS&L brought into use the sharp \frac{1}{2} mile Whisker Hill curve, enabling it to use the Great Northern station for its passenger trains and to close its Retford station on the same date. The new curve also made redundant the original connexion south west of the flat crossing.

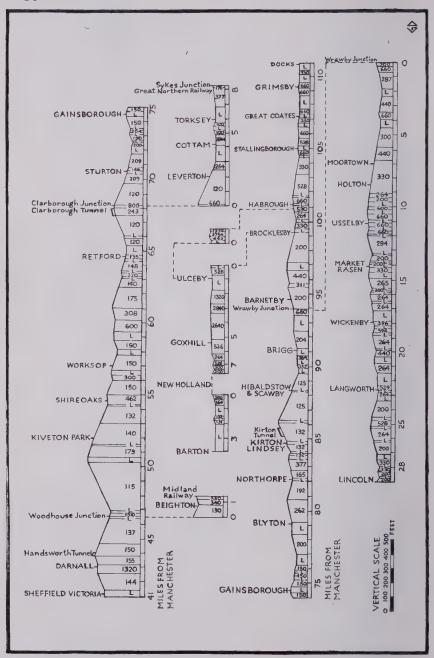
The remainder of the S&LJ portion of the main line, from Retford on to Bole, just west of Gainsborough, was let to John Waring & Sons as indicated in the previous chapter. But because of unsatisfactory progress it was taken out of their hands, after a Chancery suit, and completed by Peto Betts & Giles. The work included a considerable embankment at Welham and the piercing of the Grove Hills by the Clarborough tunnel, 656 yards in length.

At Bole began the GG&SI's contribution to the eastern main line which, with the crossing of the Trent, afforded a counterpart to the Woodhead tunnel in the way of civil engineering achievement. The Trent bridge was approached on its western side by the only wooden viaduct on the line and was designed by John Fowler, the first stone of the eastern pier being laid on 4th May 1848.2 It was described as a 'hollow girder bridge' to distinguish it from Robert Stephenson's Britannia and Conway tubular bridges for the Chester & Holyhead Railway, over which the trains ran inside the tubes. In the case of Fowler's bridge two main girders formed the parapets and transverse hollow wrought iron beams carried the rails, the whole of the ironwork being constructed by Fairbairn & Sons of Manchester and weighing nearly 400 tons. These main girders each measured 336 feet in length, 12 feet high and 3 feet 1 inch wide. They rested on three piers constructed by John Stephenson & Company, one in the river and one on each bank, being fixed securely to the middle pier and supported upon rollers carried on cast iron plates bedded in the masonry of the end piers so as to permit contraction and expansion. Thus the girders created two main spans each of 154 feet which, together with a subsidiary span of 50 feet and substantial land abutments at either end, gave the whole structure an overall length of about 460 feet.

¹ Sheffield & Rotherham Independent, 14th July 1849. ² Herapath's Journal, 13th May 1848.



The bridge over the Trent at Gainsborough. The upper drawing is of Fowler's original design, consisting of three main spans, the lower being his 'hollow girder bridge' as built. The projecting structure beneath the left-hand main span in both illustrations carries the diverted towing path. [Reproduced from drawings in the possession of British Transport Waterways



Gradient profiles of main line from Shefffeld to New Holland and Grimsby, and of the Barton, Leverton and Market Rasen branches, showing original stations. Based on MS&L official diagram.

The task of getting the main girders into position was made more difficult because the depth of the water, the nature of the ground and the demands of navigation ruled out the original intention of having them constructed on a platform supported by piles driven across the river. It was therefore decided to construct the girders on one of the approach embankments and haul them, with the aid of rollers, to the other side. Much time had to be spent in strengthening the embankment, for it was found that the great weight of the girders, when raised upon comparatively few points of support, caused the earth to subside. When this had been done the tricky job of hauling the girders across the river, with no intermediate supports save the rollers fixed upon piles at a few feet from the last abutment and middle pier, had to be faced. It meant that one end of each girder had to be held up across a gap of 140 feet before it received safe support. The operation must have given its overseers, Fowler and Fairbairn, some anxious moments before it was safely and successfully accomplished.

On 11th July 1849 the testing of the finished structure was carried out to the requirements of Captain Wynne, the Inspecting Officer. Six tender engines and several carriages, formed into two trains of 200 tons, one on each track, were moved to various positions on the bridge and traversed it several times. At every point of observation the result was most satisfactory. Indeed, to quote a contemporary report, 'so far from there being the slightest weakness there was, on the contrary, an evident super-abundance of strength'.

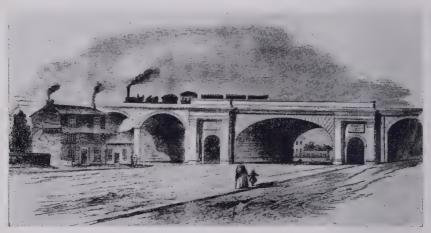
Eastwards from Gainsborough, with its 'large and very complete station' (including the goods warehouse and engine and carriage sheds it cost nearly £18,000) the main line followed a gently undulating course to New Holland, threading one more tunnel on the way, this being the Kirton, of 1,325 yards, between Kirton Lindsey and Scawby & Hibaldstow stations. The Brocklesby-Grimsby and Barnetby-Market Rasen-Lincoln lines were easily graded roads, and level crossings were plentiful on both. At the end of the Lincoln line the Witham was crossed by a tubular bridge, after which an end-on junction was effected with the Midland just to the east of that company's Lincoln station. The whole of the track for the lines east of Sheffield was laid with 72 lb rails and wooden sleepers and the maintenance of the permanent way was made the responsibility of the Resident Engineer.

The section between Woodhouse junction and Gainsborough was noteworthy because it was the first on the MS&L to be equipped, from the outset, with semaphore signals throughout. These were known as 'Cutts' signals', having been designed by one W. W. Cutts of Sheffield.¹ They exhibited red, green and white lights at night, worked from the same levers which operated the arms, the latter taking the customary horizontal position to indicate 'stop', and a downward inclination of 45° to denote 'caution'. For the 'all clear' aspect the arm disappeared into a slot within the supporting post. They were not, however, the first of their kind on the MS&L, for on 22nd May 1848 the Board decided that two signals needed for the Dukinfield

¹ Sheffield & Rotherham Independent, 14th July 1849,

colliery should 'be erected on the semaphore principle by Messrs Morton of Liverpool for £96 13s 4d as per tender'.

First mention of a 'distance' signal, the equivalent of the later cautionary 'distant' signal, occurred in the company's Management Committee's Minutes of 3rd March 1849, when it was agreed to provide one at Hadfield. Another was authorized for Shireoaks in August. On the 24th of the following month the Board resolved to resignal the lines west of Sheffield with semaphores. And the immediate sequel to an accident at Market Rasen on 29th October, when shunting had taken place at the time a passenger train was due, was the decision to erect 'distance' signals at all stations where required.



An 1849 impression of the Wicker viaduct.

Allport becomes General Manager

Consolidation of the various Acts relating to the MS&L and the amendment of certain Canal Acts, which received the Royal Assent on 1st August 1849, the completion of its main trunk and the opening of the MSJ&A, had been accomplished in a railway world convulsed by the downfall of George Hudson. At the dawn of the year he reigned over 1,450 out of 5,007 miles of railway open in the United Kingdom, contributed by four of the major companies, the Midland (458), the York, Newcastle & Berwick (407), the Eastern Counties (325) and the York & North Midland (260). His far-flung empire had expanded to its greatest extent, involving the spending of nearly £30 millions of capital. But his interests had become divided by the development of the Great Northern, whose natural allies were the York, Newcastle & Berwick and the York & North Midland, and whose rivals were the Midland and the Eastern Counties. When once the enemies with which he was surrounded had lifted the edge of the veil covering his delinquencies his collapse followed rapidly. Before the end of May 1849 he had quitted the railway stage.

His place was taken by the militant Captain Mark Huish, Machiavellian General Manager of the London & North Western Railway. With his Chairman, George Carr Glyn, immersed in banking affairs Huish wielded far more power than his contemporaries. He was well aware that if he was to hold the traffic to the Midlands and the North he must fight on two fronts, the Great Northern and the Great Western, and this did not deter him. But first he needed henchmen. For his campaign of secret traffic treaties designed to garrotte the Great Northern he dazzled the Midland with blandishments and the Midland, disarrayed by the rout of Hudson, allowed itself to be blinded temporarily by them. The Lancashire & Yorkshire, although friendly with the Great Northern, succumbed to the same plausible treatment, as did the East Lancashire. Because of its geographical position the MS&L was soon to be caught up in the toils of Huish's machinations, despite the fact that its best interests would be served by working in close harmony with the Great Northern.

Towards the end of 1849 the changing railway pattern had become manifest to the MS&L directorate. It was obvious that a competent General Manager had become a *sine qua non*. Apart from that, the system was now a sizable one embracing 270 route miles of railway and canal. Both the Board and the Committee of Management, which had been revived at the time of Meadows' appointment, were often beset by internal day-to-day problems and commotions with which it was the job of a General Manager to cope.

¹ The Railway King 1800-1871 by Richard S. Lambert (1934).

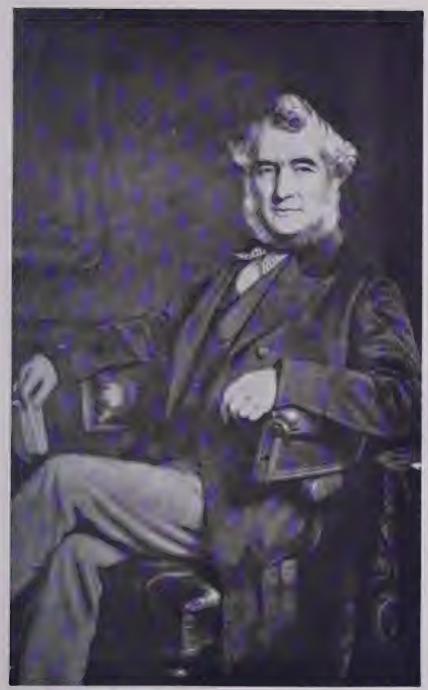
Difficulties had arisen with Allcard, who asked to cancel his permanent way maintenance contract, and this was accepted after some negotiations on 26th October. There had been several accidents on the line, leading to the prosecution of two engine drivers but not, happily, to any loss of life. Now their brand new trans-Humber steamer Manchester was involved in collisions. Her master, Captain J. P. Reed, was exonerated from blame, but Captain Bailey of the Queen, who had been called in to assist in the investigations, appeared before the Committee in a state of drunkenness. He was immediately suspended and, on leaving the office, returned to his boat, which by way of a sailor's farewell he took across to Hull before his intention was realized. Two train loads of waiting passengers were stranded, 'for which conduct, as well as being intoxicated, the Committee ordered him into custody'.

The Board's choice fell upon James Joseph Allport, a native of Birmingham, an originator of the Railway Clearing House and destined to be one of the greatest railway general managers of all time. Born in 1811, he had joined the Birmingham & Derby Junction Railway when he was 28, being then appointed its first station clerk at Hampton. His initiative was quickly recognized and on 2nd December 1840 he became Goods Superintendent at Derby. He succeeded to the managership of the line when John Dixon resigned in June 1843, but found himself redundant with the formation of the Midland in the following year. But he had already attracted the attention of Hudson, who made him Manager of the Newcastle & Darlington Junction, and, subsequently, Superintendent of the York, Newcastle & Berwick.

Allport was appointed at a salary of £1,200 a year on 9th November, and the Chairman begged him to take up his duties at the earliest possible moment, because of pending negotiations with other companies, for Huish had already been at work. In the event, Allport was unable to give any assistance until December and his full time tenure began on 1st January 1850.

News of the impending appointment sparked off two explosions. The first was the resignation of Eborall from the post of Traffic Manager. Although in his letter to the Board he gave ill-health as the reason, he was not prepared to serve under Allport as he considered this would be derogatory to his position in the railway world; after leaving the MS&L he became General Manager of the East Lancashire. The second was a clamour from a group of discontented shareholders for a thorough and unrestricted investigation into the affairs of the company. At two meetings, held at the Royal Hotel, Manchester, and the Town Hall, Sheffield, the condition of the MS&L, financial and otherwise, came in for general condemnation. The trains on the Ashton line were overcrowded. Goods took two days to travel five miles. 'And now', said Charles Corner, one of the critics, with scorn in his voice, 'the Directors have appointed one of Hudson's pupils at a salary of $f_{1,200}$, displacing an old servant who had only £,400.' Ten of the shareholders, from various parts of the system, were appointed a committee to achieve the desired objective.

¹ Railway Times, 8th and 15th December 1849.



Junes Jo eph All ort 81 189

The MS&L had already had experience of a shareholders' committee of investigation earlier in 1849. The procession of damning disclosures which led to Hudson's rout was given birth at the half-yearly meeting of the York, Newcastle & Berwick Railway on 20th February of that year. Eight days later the MS&L held a similar meeting at the Albion Hotel, Manchester, by which time it was known that all was not well with at least one important component of the Hudsonian realm. It was, therefore, to be expected that some of the shareholders should be feeling uneasy and five of them - S. R. Healey, G. Hounsfield, T. Greig, J. C. Jack and L. Simpson - were empowered by the Board to examine the financial position and future prospects of the company. Their report was adopted at an Extraordinary General Meeting held in Manchester on 6th June. It did not tell the MS&L shareholders much more than they already knew. It certainly did not reveal any financial jiggery-pokery. Indeed, in several respects it demonstrated that the Board was doing a good job in difficult circumstances. But some of those who had been involved in the Humber ferries purchase must have breathed a sigh of relief when the meeting was over. The respite was to be brief.

Demands for a further investigation which arose at the end of 1849 began to assume serious proportions. Rumours which rapidly developed into allegations against the company were that there had been partiality over the letting of the contract for the second Woodhead tunnel, the construction of which, it was asserted, would never increase the traffic on the line; there had been laxity over contracts for the Eastern lines and stations and the dock works at Grimsby; Fowler had employed railway staff for improving land owned by him at New Holland; Lord Yarborough had derived considerable benefit from the sale of land, timber and chalk to the company; and, worst of all, the Humber ferries purchase had been a fraudulent deal. The Glossop branch and various canal acquisitions were also criticized.

A group of 16 shareholders, headed by J. C. Jack, attended the Board meeting held on 14th February 1850. They expressed a desire 'to put an end to the agitation and ruin of the Company's credit by the policy now pursued by a certain party out of doors'. This, it was thought, could be achieved by an extensive change in the Board. Thomas Blake and Dr M. M. de Bartolomé had already indicated their intention of relinquishing their directorships, and after some discussion both sides agreed to co-operate against the detractors of the MS&L and to support the following new set-up:

Chairman
representing Manchester
representing maneriester
" Liverpool
" Sheffield
∫ Gainsborough
Gainsborough Grimsby and Hull
" Lincoln

At the half-yearly meeting at the Corn Exchange, Manchester, on 27th February the Directors' Report to the shareholders showed satisfactory progress on the second Woodhead tunnel; 366 yards now remained for excavation and 1,404 yards for arching, so that it should be ready for traffic in six months. At Grimsby 9,000 piles, the majority needed, had been driven since last April for the foundations for locks, basin and dock walls. The Leverton branch had been ready for opening on 1st January but the Inspecting Officer held the view that the wrought iron bridge across the Trent at Torksey was of insufficient strength although it had been tested with three times as great a load it was ever likely to bear. Fowler wrote, 'I cannot recommend any alteration to it, and I have no doubt that the Railway Commissioners will shortly rectify the error into which they have unquestionably fallen'. Fowler's forecast was accurate enough, for some six weeks later Captain Simmons reported 'I am induced to recommend that the Company be permitted to use this bridge for public traffic, provided the ballast is not allowed to accumulate beyond the depth of 2 inches', a smooth Governmental climb-down if ever there was one.

The Board's Report continued 'But the Directors are aware that deficient traffic, although the chief, is not the only cause of depression in this undertaking. Had the traffic returns been more ample, the capital for finishing the works would have been obtainable on easy and satisfactory terms; and had the required capital been thus easily provided, agitation and dissent on the part of the shareholders would not only have been unheard of, but the credit of the undertaking would have stood unimpeached in the estimation of capitalists'.

In his address Lord Yarborough, who mentioned that he was the third largest shareholder in the company, said he did not see what advantage could be gained by another committee of investigation. But if there was to be one he considered it should consist of individuals who were partisans neither for the Board nor for any party amongst the shareholders. When he sat down the attack began, spearheaded by W. P. Bradshaw, Charles Corner, Charles Morton, J. Green and Harrison Blair. Expressions of no confidence in the Board were followed by the allegations already described, save only that which related to sales of land, chalk and timber by the Chairman. The proceedings became stormy and bitter. When on a motion Stevenson, the company's Solicitor, asked shareholders not on the platform to hold up their proxies, Bradshaw vehemently refused to do so and amidst great uproar many of the shareholders tore up theirs and scattered them over the floor. The meeting was adjourned until the following day, when some measure of calmness at last prevailed. A Committee of Investigation of seven shareholders, L. Simpson, G. Hounsfield, J. C. Jack, S. R. Healey (all of whom had served on the similar body early in 1849), J. Highfield and G. Walker, presided over by W. C. Fosbery, was appointed. They were given full powers 'to examine into and report on the affairs of the Company'.

Their first move was to request written statements of the charges made by the five ringleaders in the attack on the Board, and this having been refused, they began a minute investigation into every allegation and criticism which had been levelled against the MS&L. By June their Report was ready. This forthright, closely printed 50-page document, of great historic value because of its complete schedule of the land purchases made for the whole system. and for the inclusion of an encouraging appraisal by Allport of future prospects, must have done something to restore public confidence in the company. Although the sordid facts of the Humber ferries purchase were laid bare, and some laxity in the keeping of accounts was revealed, the Committee was able to demonstrate conclusively that all the other charges were without foundation. It also recommended that an eminent engineer wholly unconnected with the undertaking, to wit Robert Stephenson, should be asked to report on the desirability of limiting, for the present, the size of the new dock at Grimsby to 12% acres instead of the planned 25; that the principle of employing salaried officers in charge of the legal and engineering departments should be adopted early; and that the MSJ&A line would be made more remunerative if its working was placed in the hands of one of its owners, either the MS&L or the London & North Western.

On 16th April John Whittaker resigned from the Board and had been succeeded by Charles Geach of Birmingham. When once the contents of the Fosbery Report were known to the Directors, another change was inevitable; Michael Ellison's position would be untenable with the exposure of his involvement in the ferries deal, and his resignation was accepted on 24th June, Samuel Morton Peto taking his place the following month. Agent of the Duke of Norfolk, Ellison had been assocated with the development of railways over a period of twenty years from their earliest days, as will have been observed already in these pages, and with his departure the last link with the abortive Sheffield & Manchester Railway of the early 'thirties was broken.

In one respect the MS&L directorate had anticipated a recommendation of the Committee of Investigation. At the beginning of 1850, when the civil engineering establishment totalled 150, Fowler was asked to advise on the future needs of the department. His report showed that the engineering work of the line (excluding locomotives) was being performed in four divisions, namely:

Lines west of Sheffield

In the charge of the Resident Engineer, James Potter (paid by Fowler), the second tunnel works being superintended by George Leather (paid by Fowler). Permanent way in the hands of the company.

Lines east of Sheffield (including New Holland and Hull) Works now executed by Fowler. Permanent way in the hands of the company.

Grimsby Docks

Works in charge of James Rendel, with Adam Smith as Resident Engineer.

Canals

In charge of Mr Wood (salaried by MS&L).

¹ Printed by Bradshaw & Blacklock of Manchester and in the author's collection.

In reviewing these arrangements on 6th June, it was decided to leave things at Grimsby as they were, but to appoint Fowler as Principal Engineer in charge of the remainder, giving him a salary of £600 from 1st July, plus £300 for new works duties in the first year and £200 in the second.

With the Fosbery Report now in the hands of the shareholders they met again at the Corn Exchange, Manchester, on 24th June and drew up a resolution condemning the members of the GG&SJ Board concerned in the ferries purchase. The present directors of the MS&L were ordered 'to make immediate application to the parties who participated' for the repayment of the £11,330 exacted, with interest, and 'failing the success of such application legal steps be taken by the Directors against all or any such parties to compel a refund of such overcharge, either by proceedings in Chancery, or otherwise as Counsel may advise'. This was promptly done and, so far as is known, the whole of the money was eventually repaid, but at considerable legal expense.

Apart from the MSJ&A problem, which was never satisfactorily resolved until the arbitrator came on the scene, no time was lost in implementing the other recommendations. Robert Stephenson's advice was sought and his investigations confirmed the wisdom of carrying out the dock works at Grimsby in their entirety; at the beginning of 1851 Hutchings, Brown & Wright, who had already undertaken the excavation, piling and foundation works, were given a contract amounting to £200,720 for completing the project, including sheds and warehouses. Stevenson was offered the post of Law Clerk, but declined it; to the detriment of the MS&L, as subsequent events proved, John W. Stable was appointed at a salary of £800 on 20th November 1850.

From the 1st of the previous September an economy had been effected with the departure of Humfrey, the Secretary, and Huffam, the Bookkeeper (who had come to the MS&L from the LNWR Treasurer's Office at Liverpool in May 1847). Their posts were combined and taken over by 23-year old Edward Ross, who was paid £200 a year. Young Ross had started his railway career on the S&LJ at Sheffield in 1845; aware that he was on trial he made an immediate success of his promotion and his salary was doubled in less than two years. Shedding his bookkeeping responsibilities in 1854 with the advent of R. G. Underdown as Chief Accountant, he was destined to occupy the position of Secretary with honour and distinction until his death in 1892.

Allport's first tasks on joining the MS&L had been to give the Board a review of the immediate needs of the line and to bring into operation an alliance with the London & North Western and the Midland, Huish having already got the latter in his pocket. As to the first, Allport considered that apart from Sheffield (where the new station was nearing completion) there was not much required on the passenger side; but goods facilities called for improvement and, in the case of coal traffic, he suggested coal drops and weighing machines at every station where coal was sold. He deprecated the existing system of selling coal from wagons, which delayed their return to

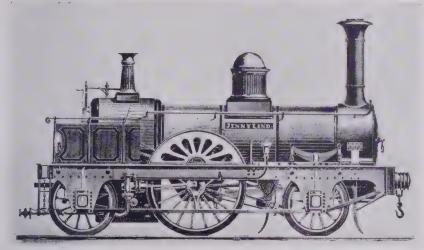
the collieries, marking him as an early advocate for the quick turnround of stock.

On the second, Allport had no alternative but to become party to a notorious traffic treaty which poisoned relations between the MS&L and Great Northern for several years. Hitherto, Huish had been busying himself cementing a 'pooling' compact with the Lancashire & Yorkshire and Midland Railways, the purpose of which was to deny through traffic to the MS&L. But now the North Staffordshire was in being and meditating building a line to the MS&L at Whaley Bridge. Now was imminent the opening of the Great Northern from London to Peterborough, which, with the existing line to Boston and Lincoln, created a new link between the south and the north. And in the near future there loomed the consummation of the Great Northern main line from London to Doncaster by the completion of the Peterborough-Retford link. Huish realized that an entente between the MS&L and Great Northern would quickly result in the establishment of competing services between London and Manchester, via Retford. Therefore, to quote the words of Charles H. Grinling,1 'it had become necessary for Captain Huish to execute a complete volte-face in his attitude to this formerly despised Company, and to make every effort to convince its new manager, Mr Allport, that the friendship of the London & North Western, Midland, and Lancashire & Yorkshire would be of more value to his Company than any alliance with the Great Northern would be'.

The admission of the MS&L to the 'Euston Square Confederacy', as this anti-Great Northern alliance was to be nicknamed, became a fait accompli at London Road station on 5th December 1849. That was when Allport (with Eborall in attendance), Huish, and Joseph Sanders of the Midland (like Allport, a General Manager designate) met to draft the treaty which was to divide the goods traffic between the respective companies for a term of seven years, protect the existing spheres of influence of the MS&L (Huish speciousness, this), hamper the Great Northern, and discourage the North Staffordshire building to connect with the MS&L. After two more meetings in December the instrument had been given its finishing touches, was approved by the MS&L directorate on 16th January 1850 and brought into operation on the 1st of the following month.

Under pressure from Euston Square the Lancashire & Yorkshire and Midland had had to acknowlege an MS&L monopoly of the Hull traffic, but the cost of this to the latter company was demonstrated by some of those clauses in the treaty which were directed solely against the Great Northern. For instance, the MS&L was to have no connection with the Great Northern for Hull traffic and was 'to throw all the traffic in their power via Lincoln and the Midland line'. Clause 15 decreed 'Should the Great Northern avail themselves of their Parliamentary powers to work over the MS&L line to Sheffield, the MS&L to charge their maximum rates, and to give no accommodation or facilities which they are not bound to afford by clauses under the

¹ The History of the Great Northern Railway 1845-1902 (Methuen & Co 1903).



Wilson single Jenny Lind of 1848.

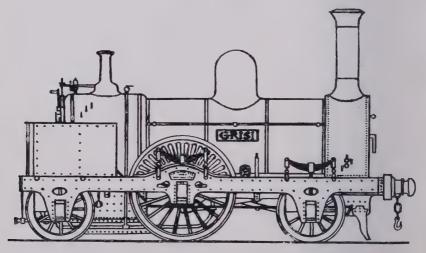
existing Acts'. Again, under clause 18, the MS&L was to make no arrangement with the Great Northern for traffic of any description between London and Manchester, and to accept no through rates with them for passengers and goods. Here it should be mentioned that the treaty extended to all traffic except passengers, mails, parcels, horses, carriages and dogs. But in this connexion it was laid down 'that the accepted traffic shall, as far as is consistent with public convenience, be directed over the lines of the parties hereto, who shall use every reasonable exertion and inducement to confine this traffic to the three lines'.

With the entry of the MS&L into the Euston Square Confederacy friction soon arose at those places where it was physically connected with the Great Northern. The Leverton line was fit to carry goods traffic (but not passenger traffic owing to the absence of signalling) and on 26th January Allport was instructed to start working goods trains over it. But the Great Northern thwarted this by refusing to allow MS&L trains to pass between Sykes Junction and Lincoln. The line was eventually opened on 7th August, when the Great Northern, adopting a more reasonable attitude, made use of it to introduce a through service between Doncaster and Lincoln via Retford. Intermediate stations of a temporary character were brought into use at Leverton, Cottam and Torksey towards the close of the year; they first appeared in *Bradshaw's Guide* for December 1850, the simple permanent structures, costing some £320 at each place, not being erected until the early part of 1853.

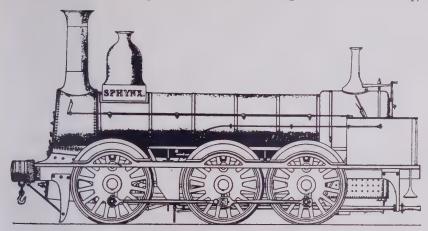
In May 1850 Lord Yarborough attempted to reach a *modus vivendi* with Edmund Denison, the redoubtable Chairman of the Great Northern, especially as regards the common use of the latter's station at Lincoln and

of the MS&L stations at Sheffield, Retford, Gainsborough and Grimsby. But a five years' agreement proffered by him was contemptuously rejected by Denison and this served to exacerbate the relations between the two companies. A collision in the Clarborough tunnel, on 19th May 1851, between an MS&L passenger train and a Great Northern coal train, due to negligence on the part of the trainmen on the latter, and causing injuries to some of the passengers, did not help matters. Grinling has recorded Allport's refusal to continue supplying water to Great Northern locomotives at Retford; the placing of blocks across the rails at Grimsby to prevent the Great Northern exercising its legitimate running powers thence to New Holland; and the deliberate despatch, on at least one occasion, of the last Humber ferry for the day before the arrival of Great Northern passengers, who were thus forced to stay the night in the train or in the waiting room at New Holland station. The service to and from New Holland and the south had hitherto been provided by through trains. Soon the Great Northern was to be evicted completely. On 1st September 1851 MS&L locomotives began to haul all trains between New Holland and Grimsby and in the following November the company took over the service in toto, so forcing through passengers to change trains at the latter place. Thus was public convenience sacrificed on the altar of Huish's self-protectionist policy.

But in other directions, however, the service offered by the MS&L to the public was being improved at this period. The Lancashire & Yorkshire line from Huddersfield to Penistone which, it will be remembered, was promoted as the Huddersfield & Sheffield Junction Railway, was opened on 1st July 1850, and from this date MS&L passenger trains began to run over it into Huddersfield. A new hotel at New Holland, to replace the old Yarborough



Fairbairn single Grisi of 1849.



Sharp Sphynx class 0-6-0 of 1849-1850.

Arms inherited from the GG&SJ, was brought into use in April 1851, having been built by William Kirk of Lincoln for £1,825. In the following month it was left to Allport to negotiate with 'Messrs Smith & Son of London' who wished to sell books at the company's principal stations. Allport was to try to get £,400 per annum for this right but to decline an application from the same firm to advertise in MS&L carriages. The electric telegraph, which had been introduced for the safe working of the Woodhead tunnel and, in mid-1849, had been installed between Manchester and Gorton, was now to be considerably extended and so materially speed up the conduct of public business. At the end of May 1851 a contract was concluded with the Electric Telegraph Company which, for about £5 per mile per annum, undertook to install lines between Manchester, Sheffield, New Holland, Grimsby and Lincoln, providing not only the equipment but the clerks to operate it at the principal stations. In July through carriages were introduced between Sheffield (Bridgehouses) and London (Euston Square) via Beighton, Eckington and the Midland and LNWR. These left Sheffield at 11.0 a.m., 1.40 p.m. and 8.55 p.m. in the up direction and London at 8.30 a.m., 9.15 a.m. and 10.50 a.m. in the down, and were hauled into and out of Bridgehouses station by Midland locomotives.

Destined to be named Victoria the much-needed new station at Sheffield was now nearing completion. It had been planned by John Fowler, the architects being Weightman, Hadfield & Goldie. The arches upon which it stood were built by Miller, Blackie & Shortridge; the station approaches and platforms were the work of J. & A. Ridal; and the station buildings were erected by a Mr Carlisle. Fronting south-west and approached from Blonk

¹ Sheffield & Rotherham Independent, 12th July 1851.

Street by a 1 in 30, 50 feet wide incline 320 yards in length, Victoria was built of hammer-dressed Greenmoor stone, with chiselled beds and joints, facings of ashlar stone from Wadsley, and possessed a frontage of 400 feet some 40 feet above the level of the Wicker. 'Its elevation gives it a commanding aspect' declared the Sheffield & Rotherham Independent two days before the station was opened, 'and though its front is destitute of ornament, being very simple in its architectural character, it appears to us infinitely more appropriate for a place of business, belonging to proprietors who have yet to make a large concern pay, than the more pretentious and ornate stations in which some companies have indulged themselves'. It was opened to the public on 15th September 1851 without formality but with much in the way of decorative flags and banners.

The new station consisted of a centre and two wings, a covered verandah with a closed roof supported by iron brackets extending the whole length of the centre building so that road vehicles could set down and pick up passengers under cover. The entrance or waiting hall measured 50 feet by 30 feet. with a height of 25 feet. The booking office had three windows, the centre and right-hand ones for MS&L passengers - 1st class, and 2nd and 3rd class. respectively - and the other for Great Northern passengers. The eastern wing contained the waiting and refreshment rooms (the latter being rented by John Moves, landlord of the Great Northern Hotel at Lincoln, for £200 per annum for seven years), and the conveniences and parcels office. In the western wing were accommodated the telegraph, station master's and civil engineering offices, together with rooms for guards, porters and lamps. Within the station itself was provided a platform 1,000 feet in length with a width of 40 feet, embodying bays at each end. This was protected from the elements by a light glazed iron roof, having a length of 400 feet and width of 83 feet, one of the first fruits of the Crystal Palace! It was of the ridge and furrow type, the work of Fox, Henderson & Company, and was supported on the inner wall of the station buildings on one side and by a lofty wall on the

'The arrangements of the station will be very complete for excluding from it the crowds of idlers who are often a great impediment to business,' commented the contemporary newspaper account. 'The places of exit will be closed by sliding gates which will be opened only when a train arrives. Besides this the platform will be divided longitudinally by an iron railing, with sliding gates at intervals. Through these gates only persons who have tickets will pass. Friends who go to see them depart will remain on the outer side of the railing, sufficiently near to utter their last adieus, without impeding the loading of the carriages, or running the very common risks of accidents by getting upon the steps of the carriages. These arrangements are expected to conduce greatly to the orderly and quick despatch of the business of the station.'

Four lines passed through Victoria, two of them being used as empty carriage roads; two additional through tracks outside the north-eastern wall of the station were provided for goods traffic, soon to be handled at the old Bridgehouses station, which was quickly converted into a goods and mineral depot, complete with coal drops, hydraulic cranes and warehouses.

The benefits from the improvements at Sheffield and elsewhere on the system, and the incidence of the Great Exhibition in London during 1851, were reflected in the traffic receipts for that year, which rose by £38,000 to £397,000.

Manchester, Sheffield, and Lincolnshire Railway.
BIG CENERAL PASS.
First Class.
From Jeby — 1852 to Dec 3/ 1852 inclusive.
19 ass & Loch losgie FREE, from
They Station to may Morling
In any of the Company's Trains, on condition that, before entering a Carriage, he shall show this Ticket to a Clerk at the Station from which he may take his departure, and that he shall again show this Ticket to any of the Company's Servants on being required to do so, or on quitting the Train.
The holder of this Pass is subject to the same rules and regulations as other Passengers.
Manchester, - ely. 10 1852
General Manager.

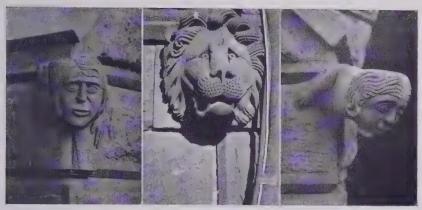
First-class all stations free pass of 1852, bearing Allport's signature. The original, preserved in York Railway Museum, measures 4 inches by 3 inches unfolded, and was given an unadorned black leather cover.

Watkin succeeds Allport

In the late summer of 1851 the MS&L took stock of its plans for the Parliamentary Session of the coming year. The partially finished Whaley Bridge branch, moribund since the end of 1848, had had its track pulled up at its temporary extremity two years later to meet renewal needs elsewhere; now it was decided to abandon it beyond Hyde because of its small traffic potential. On the advice of Allport, a contemplated 2 miles' spur from Gainsborough to the banks of the Trent was also dropped because of the diminishing importance of the town as a port. The Board came to the conclusion that development of the system's coal traffic must be the immediate objective and plans were evolved for a modest collection of short lines to be put forward. These consisted of branches from Darnall to the Manor colliery and from Highfield Spring to join the Tinsley Park colliery tramway, a spur to the Midland at Woodhouse Mill, a branch from Woodhouse Junction to Birley colliery, an extension of the Thurgoland branch and the purchase of the Moor End tramway in the parish of Silkstone.

The need for better access to the coalfields also brought about the long awaited construction of the Barnsley line, which financial stringency had arrested for three years since the passing of its authorizing Act. By now both the Sheffield, Rotherham, Barnsley, Wakefield, Huddersfield & Goole and South Yorkshire Railways had entered the town, from Horbury Junction and from Doncaster respectively, and an impatient deputation of inhabitants urged the MS&L to fulfil its promise. Originally it had been intended that Brassey should build the line at cost plus 5% within ten years, but in January 1852 it was decided to accept George Miller's tender of £34,566 for construction as far as Dodworth. Six months later it was discovered that the Great Northern was surveying a line from the South Yorkshire at Barnsley in the direction of Manchester, and Fowler was hastily summoned to make a fresh survey for the least expensive route he could recommend to carry the line forward from Dodworth to connect at Barnsley with the two railways already there.

Two major engineering tasks were completed in the early part of 1852, at Woodhead and at Grimsby. In the driving of the second Woodhead tunnel, through which a line of rails had been laid by the end of August 1851, the MS&L did not forget the lessons learned from the construction of the first. More regard was paid to the welfare of those involved, and their religious instruction was cared for by the Rev. James Buckley of Penistone (amongst others), who was given free travel for his frequent visits to the tunnel works at the Dunford Bridge end. In September 1848 the MS&L had set up a school at Woodhead for the children of the workpeople, and subsequently contributed towards the cost of the shed in which classes were held.



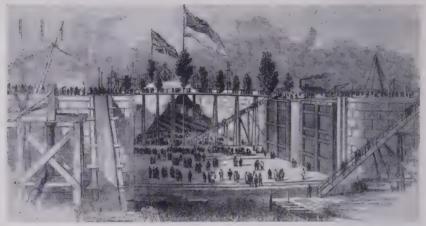
Gargoyles on western portals of Woodhead tunnel. Left to right: Up line, centre, and down line.

Cholera stalked amongst the men at the Woodhead end during 1849 and within a short space of time had claimed 28 fatal victims. A widow of one of the navvies, known as 'Peg-Leg' because of her wooden leg, did great work as a nurse until she too died from the disease. Some of the dead, together with many victims amongst those working upon the nearby Manchester Corporation reservoirs, were buried in a corner of the churchyard at Tintwistle Parish Church, which was consecrated in 1837. On the font were inscribed the words, 'This font was purchased by the thank-offerings of the congregation of this Church on the occasion of the General Thanksgiving for deliverance from cholera in the year 1849'.

With the laying of the track through the tunnel George Pauling, the contractor, informed the MS&L that his task was done. This was not accepted by Fowler, who insisted upon a lining of masonry, and as a result a squabble ensued between the contractor and the company. Alfred Jee was asked to arbitrate, and his award that the MS&L should bear some of the cost of lining was not stomached by the Board, who recorded that he had 'exceeded the intentions of the Directors'. Stable, the Law Clerk, was instructed to obtain possession of the works and Fowler told to complete them at all speed; together they were to substantiate a charge of inefficient execution against Pauling, so that the amount of money 'improperly paid to him' could be assessed and recovered.

The second Woodhead tunnel, accommodating the up road, was driven alongside the original bore, with which it was connected by 25 manholes at intervals of about 200 yards. Opened for traffic on 2nd February 1852, its beneficial effect upon train operating was felt immediately. Furthermore, the removal of the pilot engine saved some £800 a year.

On 18th March the larger of the two lock pits at Grimsby became the venue, for the second and last time, for a sumptuous banquet. This was to mark the completion of the MS&L's notable dock enterprise and on this



The guests assemble for the lock pit banquet at Grimsby, 18th March 1852, as seen by the *Illustrated London News*.

occasion the contractors, Hutchings, Brown & Wright, were the hosts. Their 300 or more guests were accommodated in a large marquee, and to Longhurst, of the Yarborough Arms, was assigned the important task of catering and of ministering to their needs for liquid refreshment. The latter must have been pretty considerable before the proceedings were over, for there were no less than fifteen toasts which, apart from those to be expected in such circumstances, ranged from 'The Army and the Navy' to 'The Bishop and Clergy of the Diocese'. The guests included Lord Yarborough, supported by most of the Directors and some of the Officers of the railway, the Earl of Powis, Lord A. Paget, Admiral Moorsom and the usual clutch of civic leaders.

Lord Yarborough, in proposing the health of Prince Albert, expressed the hope that His Royal Highness would some day persuade Her Majesty to visit the docks in the Royal yacht. He said, if the yacht were sent to Grimsby he thought it would be a very convenient way for Her Majesty to travel to Scotland, for she could come down by the Great Northern and embark at the new dock. Responding to the toast given by S. M. Peto, M.P., to the Engineer-in-Chief, James Rendel, and to his Resident Engineer, Adam Smith, Rendel made the interesting observation that the dock works above ground were only one-tenth of those buried in the mud. Altogether, the function occupied four and a half hours, and after it was concluded with the fifteenth toast – 'The Press' – at 6.30 p.m., not a few of the guests must have experienced some difficulty in negotiating the long improvised staircases which rose up from the lock pit to the dockside!

Water was admitted into the dock in the early hours of 22nd March and the Resident Engineer's boat was the first to be launched, at 11.0 a.m.¹

¹ Illustrated London News, 27th March 1852.

The dock works were brought into public use two months later and their principal features are described in the next chapter. The branch from Grimsby (Town station) serving Docks and Pier stations, and the associated dock lines, some 2 route miles in all, were finished on 1st August 1853.

With the completion of these heavy engineering tasks at Woodhead and Grimsby the MS&L seemed to pause for breath, although in truth it was for money, for no further expansion of the system took place until July 1854, when the Barnsley line reached Dodworth; two months later the ½ mile Park goods branch to the canal basin at Sheffield, leaving the main line ¼ mile east of Victoria station, was completed. In the interim two wayside halts were brought into use. These were at Bigby Road Bridge, midway between Barnetby and Howsham, at which one train each way began to call when required, on Thursdays only, as from 1st March 1852, and at Checker House, some three miles east of Worksop where two trains daily each way made similar calls from the commencement of the following month. Incidentally during one week in August 1852 the MS&L carried from Manchester no fewer than 5,000 Irish labourers seeking employment in the harvest; hiring cattle trucks, they travelled at about ¼d each per mile. 2

Although Royal Assent was given to the MS&L (Coal Branches) Act on 30th June of the same year, enabling the company to proceed with its short lines to collieries, the Board had second thoughts. Despite the purchase in November 1856 of land near Woodhouse Mill for a spur from the northern side of the MS&L to the eastern side of the Midland, only the Birley branch was ultimately constructed.

Far-reaching changes of another kind, however, were close at hand. And the exceptionally heavy rains and high gales of the autumn of 1852, together with further restlessness on the part of some of the shareholders, especially at Sheffield, seemed to be their harbingers. The extensive floods caused by the rains did much to impede the movement of traffic generally and the progress of work on the Barnsley line. The agitation amongst the proprietors resulted in the setting up, in the following April, of a Committee of Consultation. This body eventually consisted of eleven of the shareholders with whom the Board conferred on all important matters of policy for several months to come.

The first change to take place, which had been planned during the stormy autumn, was the cessation of John Fowler's continuous participation in the engineering affairs of the company. He was retained as Consulting Engineer in place of Alfred Jee, who had occupied that position since 1st January1849 and who had been associated with the SA&M and MS&L since mid-1840. Jee's services as a consultant were, however, made use of on subsequent occasions and in 1856 he reported against the use of catchpoints, which Allport's successor Watkin favoured. On Fowler's recommendation James Potter was appointed Engineer, with a salary of £600, as from 1st July 1853.

¹ Bradshaw's Guide.

² Sheffield & Rotherham Independent, 14th August 1852.

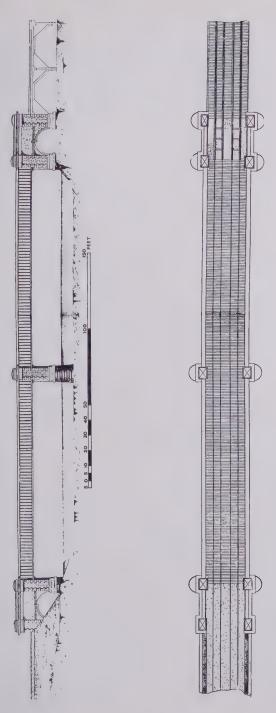
Two months later the services of James Rendel, Engineer-in-Chief for the dock works at Grimsby, were dispensed with; Adam Smith, the Resident Engineer there, was made responsible to Potter, whose offices were to be moved from Sheffield to Manchester as soon as accommodation could be provided.

Fowler, born at Wadsley Hall on 15th July 1817, had been an asset to the company because of his powers of organization and his great moral and professional courage, the latter being well exemplified by his stand over the bridge at Torksey. His greatest achievements still lay ahead but at the time of his departure from the MS&L only 11 miles of original stone block sleepered road remained in the main line and 24 feet rails were being installed between Ardwick and Gorton. He was knighted in 1885 for his services in the Sudan and Egypt and made a baronet five years later with the completion of the Forth Bridge, of which he and his partner Benjamin Baker were co-designers. He died peacefully on 20th November 1898 at the ripe old age of 81.

The next change, the ultimate effect of which upon the destiny of the MS&L is quite incalculable, was the resignation on 20th July 1853 of James Allport. The Midland had offered him the post of General Manager at £1,500 a year and he expressed a wish to be released at the end of September. to which the Board acceded with deep regret. Most, if not all, of the Directors, must have had more than an inkling that they were losing a General Manager who had not been given much opportunity, during less than four difficult years, to manifest his true brilliance. To a man of Allport's outstanding ability, integrity and vision, the creation of an excrescence such as the Committee of Consultation must have been anathema. And quite possibly the inclusion within its ranks of one of his severest critics, Charles Corner, was not without significance. What might have been had he remained with the MS&L! Under his leadership, which was sustained by an enlightened and courageous directorate, the Midland became one of the greatest of all railways. To him, who was to be nicknamed the Nunquam Dormio of the Midland and the Bismarck of railway politics, the public came to owe third class by all trains, with upholstered seats into the bargain. He was knighted in 1884 and died at St Pancras Hotel on 25th April 1892, equalling Fowler's life span of 81 years.

Close upon the heels of Allport's resignation followed the decision of the Board to end the services of Stable, the Law Clerk, because of his neglect of MS&L interests on more than one occasion. Joseph Guy was appointed to succeed him on 11th August at a salary of £1,000. Before many months had elapsed, however, it became painfully apparent that Stable's delinquencies extended to defalcations totalling nearly £7,900. This he had obtained by means of forged vouchers in respect of monies paid to him for land purchases. It was some time before he could be located, but his trail was picked up in Belgium and he was finally apprehended in Germany in the spring of 1854 to face the criminal proceedings taken against him.

Apart from this setback, of which they were still unaware, and the imminent loss of Allport, the Directors were able to give a sanguine picture to



Elevation and plan of the bridge over the Trent at Torksey.

the shareholders at the half-yearly meeting on 31st August, for the receipts from both goods and passenger traffic were showing encouraging trends. And, as if to make amends for past bad faith, the shareholders voted, by 4,010 to 696, against the continuance of their free passes for attendance! Soon afterwards the Committee of Consultation unanimously agreed to recommend to the Board that the salary of the incoming General Manager, and those of the principal officers under him, should in part be dependent upon the net receipts of the company.

For some weeks one of the Directors, Samuel Lees, 'generally managed', for it was not until 4th November that the decision was taken to give the Deputy-Chairman full powers to appoint Allport's successor. A week later Chapman reported that he had got acceptance of the office from Edward William Watkin, of the London & North Western, whose period of engagement would be for five years from 1st January 1854, or from such earlier date as his present commitments allowed. He was to be paid £1,200 a year plus $1\frac{1}{8}\%$ upon all increase in nett earnings, or savings in working expenses, taking the year ending 30th June 1853 as the criterion. Other terms of his appointment included a contribution by the MS&L of not more than £100 to cover the expenses of his removal from London to Manchester, and an undertaking to pay one year's salary to his family in the event of his death during his engagement.

So was born the long association of Watkin with the MS&L which, with an interruption of less than sixteen months, was to last to see the company change its name to Great Central and, beyond that, until the dawn of the twentieth century. He assumed the general managership early in his thirty-fifth year, for he was born on 26th September 1819. Eldest son of Absalom Watkin, a London merchant who migrated to Manchester, Edward was educated at Manchester Grammar School and eventually became a partner in his father's business. His railway career started in 1845 with his appointment as Secretary of the newly formed Trent Valley Railway. This he joined in time to be present at the cutting of the first sod, when he trundled the wheelbarrow beside Sir Robert Peel, the central figure at the ceremony. Leaving in 1846 because of a breakdown in his health caused through overwork, he toured the United States and Canada in 1851 and on his return joined the London & North Western, which had acquired the Trent Valley. It was then that he had the unrivalled experience of serving under the most wily and unprincipled railway general manager of the times. He became an assistant to Captain Huish and had been appointed Secretary of the Worcester & Hereford, an LNWR-sponsored scheme of invasion into Great Western territory, shortly before he joined the MS&L.

Watkin actually began to render some services to his new employers in December 1853 (for which he was paid \pounds 100) and one of his earliest assignments was to resolve a long outstanding dispute as to the rental to be paid by the MS&L to the Midland for the use of the latter's station at Eckington, as a result of which the train service between that place and Sheffield had been suspended since March 1852. With Allport's co-operation he was successful

and the service was resumed on 1st March 1854. Another was to negotiate with the LNWR reductions in the Ardwick-Manchester tolls, which have been referred to earlier on page 39. Here he was able to secure cuts for the heavy staple traffics such as coal, stone, lime, corn and grain, which were to be charged $\frac{1}{2}d$ a ton, and for excursion passengers, who were to be rated at $\frac{1}{4}d$ each.

Yet another exceptionally able officer was now soon to leave the MS&L. Richard Peacock, the Locomotive Superintendent, had decided to join with his friend Charles Frederick Beyer, of Sharp's, in founding the locomotive building firm which, under their joint names, was to become famous throughout the world. Peacock was a born organizer and judge of men and, in addition, possessed an almost intuitive mastery of financial questions. He too, lived to see the MS&L become the Great Central. When he died on 3rd March 1899, after a lingering illness, at Gorton Hall (long since demolished and built over), where he had lived for many years, he was nearing his 79th birthday. A stately monument stands above his tomb at Brookfield Church on the Hyde Road, and within the church there is a tablet to his memory.

On 7th April 1854 the Board appointed Robert George Underdown to the newly created post of Chief Accountant. At the same time William Grindley Craig, Locomotive Superintendent of the Monmouthshire Railway & Canal Company, was selected to succeed Peacock, although he did not take over until the 1st of the following month. In both instances the salaries – £350 in the case of Underdown and £500 in the case of Craig – were to be supplemented by percentage payments akin to those arranged for the General Manager. A year later, in June 1855, the Board extended the principle to some of the other officers, and the formulae adopted were as follows:

Locomotive Superintendent

5% on all savings in expenditure as compared with year ended 30/6/54 up to a salary (including his present salary) of £1,000. $2\frac{1}{2}\%$ beyond that sum.

Secretary
Chief Accountant
Goods Manager
Canal Manager
Superintendent

£50 for each $\frac{1}{2}\%$ additional dividend on the old stock of the company.

£25 for each $\frac{1}{2}$ % additional dividend on the old stock of the company.

In its first year of operation the MS&L had paid a dividend of 5% on its ordinary stock. This fell to $2\frac{1}{2}\%$ for the first half of 1848, since when there had been no further payments. The officers concerned could not therefore have misled themselves into thinking that they were now on the verge of affluence! Nevertheless, the MS&L ended the second half of 1854 with an ordinary dividend of $\frac{1}{8}\%$ and during the next nine years managed to scrape up to a peak of $\frac{1}{4}\%$ in 1860.

Poor as it was, the MS&L had been most careful not to take any step to offend the wealthy neighbours with which it had been associated since the inception of Huish's anti-Great Northern traffic treaty of 1850. It must there-

fore have been a great shock to Chapman to learn from Watkin, as soon as the latter had become General Manager, that in May 1853 discussions had actually taken place between Euston Square and King's Cross with the object of effecting a general territorial division between the LNWR and the Great Northern, Such was the deplorable duplicity of Huish, for if ever this carve-up took place, his so-called ally, the MS&L, would cease to exist as a north-south line and be left to carry east-west traffic more or less on sufferance. Armed with this knowledge, it is not surprising that Watkin's appointment coincided with the genesis of an era of steadily improving relations between the directorates of the MS&L and Great Northern, Not even another accident in the Clarborough tunnel, on 11th April 1854, when the negligence of the guard of a Great Northern coal train led to a collision with an MS&L pick-up goods, of which the driver and fireman were killed, was allowed to upset the rapprochement too much. On 5th May, at the suggestion of Watkin, Archibald Sturrock, Locomotive Superintendent of the Great Northern, was asked to report to the Board on the condition of the company's locomotive, carriage and wagon stock, an assignment which he fulfilled annually up to the end of 1857, jointly with J. E. McConnell, of the London & North Western, on the penultimate occasion. In the same month the Great Northern promised to collaborate with the MS&L over the formation of the Deep Sea Fishing Company at Grimsby, to which further reference is made in the next chapter.

It is now appropriate to introduce three small railways, one of them in course of promotion, all of which had a part to play in the fluctuating interrailway situation of the period. On 1st May 1854 the Warrington & Stockport was finally completed throughout between Timperley, on the MSJ&A, and Warrington, Incorporated on 3rd July 1851 as the Warrington & Altrincham Junction, and supported by the MS&L, it had changed its name on 4th August 1853 in anticipation of getting eventually to Stockport. At Arpley station, Warrington, it effected an end-on junction with the St Helens Canal & Railway, with which it was closely associated, for Gilbert Greenhall was the Chairman and Arthur Sinclair the Secretary of both lines. The St Helens, which had sprung from an amalgamation of the Sankey Brook Navigation and the St Helens & Runcorn Gap Railway, also extended from Warrington to Widnes and from Widnes to Garston. The true significance of the W&S and St Helens companies was, of course, that together with the MSJ&A, a continuous line of railway from Manchester to Garston was established, thus putting the MS&L on the threshold of Liverpool.

The railway in course of formation was the Stockport, Disley & Whaley Bridge. This the MS&L rightly regarded as an invader and, aware that it was seeking financial aid from the London & North Western, attempted to persuade the latter to withold support or, at least, to act in concert. To these suggestions the LNWR at first turned a deaf ear. But repeated pressure by Lord Yarborough upon its Chairman Lord Chandos drew from the latter an assurance that the LNWR would protect, as far as it could, the canal

¹ Bradshaw's Shareholders' Guide, Railway Manual and Directory, 1858.

traffic of the MS&L from competition by the SD&WB, which got its Act of Incorporation on 31st July 1854. Had not the financial position of the MS&L been so parlous at the time there is little doubt that its thoughts of reviving its branch to Whaley Bridge, and of making as much use as it could of the Peak Forest Tramway thence as a means of reaching Buxton, would have been quickly translated into action. Buxton was originally visualized as the ultimate terminal of the Whaley Bridge branch; now it was the objective of the SD&WB. Yet with its average traffic receipts falling short of its fixed obligations by some £1,000 a week, the MS&L could do no more than protect what it already held.

With King's Cross still unpredictable on his eastern flank and Paddington actively aggressive in the west, Huish was unable to afford to alienate the MS&L. The blow of the impending inroad to Buxton must be softened; and if, at the same time, some means could be devised of tying the impoverished but strategically valuable MS&L more firmly than ever to Euston Square, so much the better. The negotiations between Lord Yarborough and Lord Chandos soon developed into the formulation of an extended agreement which, the latter stated in a letter to the MS&L Chairman, would be desirable for both companies.

Members of the Boards met at Rugby on 20th July 1854. The treaty then concluded laid down that the two railways should be worked as one interest; that the MS&L should be secured a minimum gross traffic of £9,500 a week for the year ending 30th June 1855, rising to £11,500 in 1861; that all excess in the first three years earned by the MS&L, up to the end of 1857, was to belong to that company exclusively; and after that year the MS&L would take $\frac{2}{3}$ rds, and the LNWR $\frac{1}{3}$ rd of all in excess of £12,000 a week. For any of this traffic not actually carried by the MS&L the LNWR was to be given a 50% allowance for working expenses. It was further agreed that the minimum gross traffic receipts secured by the MS&L should be supplemented by an additional sum should the LNWR pay its ordinary shareholders a dividend exceeding $5\frac{1}{2}$ % per annum. This, in effect, meant that an extra $\frac{1}{2}$ % dividend by the LNWR would bring the MS&L £5,000.

The treaty was regarded as continuous and subject only to seven years' notice of termination by either side. Yet, even with the MS&L so committed, the LNWR objected violently to it working the Timperley-Garston line of the Warrington & Stockport and St Helens Railways, or operating over that line any of its own traffic that it wished. For the latter the MS&L would pay an annual sum of £9,000 in 1855, rising to £12,000 in 1857, with an option to extend for a further period on higher terms. Only when Chapman declined, whatever the consequences, to break a promise he had made in good faith to these two small, but important, lines, did the LNWR reluctantly consent, and the treaty was finally completed on 29th July.

¹ Its Act of the following year authorized not only the LNWR but the old-established Cromford & High Peak Railway, with which it was to form a junction at Whaley Bridge, to hold shares.

Later in the year the LNWR offered to perform the whole of the MS&L's passenger and parcels business at London Road station, including collection and delivery by van, for £600 a year. This was accepted and, as a natural consequence, it was agreed in December to alter some of the accommodation at the station, including the booking offices, so as to do away with the need for two separate sets of staff. It was a move that the MS&L came bitterly to regret.

With the advent of Watkin it soon became evident that a progressive and enlightened policy was to be pursued with both the business community and the staff. One of the earliest inducements to be offered to traders was the issue, at the beginning of 1854, of six-monthly and yearly 'periodical' tickets to those whose payments to the MS&L were not less than £250 per annum. Thus for £42 (1st class) and £30 (2nd class) qualified applicants could obtain annual tickets any station to any station. A contemporary scheme, to foster residential traffic, was the issue of free tickets (available for 10 years) from Sheffield to any station up to and including Retford, to those who erected houses of an annual rental value of not less than £35 within two miles of stations on the line.

Watkin initiated projects for savings banks and benevolent funds for the staff in June 1854. In the following month was launched a plan he had devised with Craig which gave enginemen monthly monetary incentives to exceed certain prescribed average daily mileages and to effect savings in locomotive working and repair costs; unpunctual running, however, on more than one train a week incurred a fine of a shilling in ordinary circumstances within the enginemen's control, or half-a-crown if due to shortage of steam because of bad firing. Some of the company's clerks whose salaries were f.100 a year presented a petition in the same month for a reduction to f_{1} 99 10s so that they might escape payment of income tax! Their request was declined on the grounds that it was too blatant an evasion, but eighteen months later, in 1855, the Board decided to pay income tax on all staff salaries between f_{100} and f_{120} per annum. This gesture was closely followed by the despatch by Watkin, at the expense of the company, of a turkey, goose or leg of mutton as a Christmas present to every station clerk (the term station master had not yet come generally into use) on the line! It was also in 1855 that the company's schools for the children of its employees - the first, at Woodhead, had been a temporary venture - was established. On 23rd February it was decided to set up a school at Gorton, together with a dining room, library and reading room for the adult workpeople there, and in November of the same year a reading room was provided at London Road station for the clerical staff.

In the autumn of 1854 the MS&L was honoured with a second visit from Royalty within the space of $5\frac{1}{2}$ years. On her way back from Scotland with her family in October Queen Victoria had planned to visit Hull and

¹ Watkin was also interested in mutual help and exchange of information between railway officers. He was first President of the Railway Club, which was inaugurated for this purpose at the Clarence Hotel, Manchester on 2nd November 1855 (Railway Record, 1855, page 714).

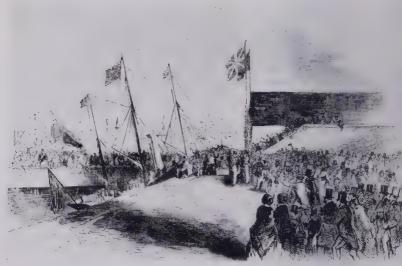


South-east view of Sheffield as seen by William Ibbitt in 1854; Victoria station is in the middle background on the right. [Courtesy: Director of the Sheffield City Museum



The Royal yacht enters the new dock at Grimsby.

[Illustrated London News



Her Majesty lands.

[Illustrated London News

Grimsby. She was accompanied by Prince Albert, the Prince of Wales, the Princess Royal, Prince Alfred and the Princesses Alice and Helena. The Royal party were in Hull during the morning of 14th October, having stayed the previous night at the Station Hotel of the North Eastern Railway, and left the Corporation Pier for Grimsby in the Royal yacht Fairy. On arrival in the new dock soon after 12.30 p.m., the Queen and her entourage were received on landing by the Mayor and Corporation and Lord Yarborough in his dual capacity as High Steward of the Borough and Chairman of the MS&L. The Pier passenger station had been fitted up as a reception room, and here were presented loyal addresses from the proprietors of the railway, to Her Majesty and to Prince Albert, the former containing a request for the new dock to be named 'Royal Dock' in honour of the occasion. Needless to say, the request was granted, and a brief inspection of the dock installations followed. The impressive 300 feet-high tower erected for the hydraulic operation of the lock gates contained a lift worked on the same principle, and as soon as the Royal children knew there was a means of getting quickly to the top they clamoured to be allowed to go. Queen Victoria permitted the two eldest to do so, accompanied by Prince Albert and James Rendel, the Engineer-in-Chief. With this jaunt over, the Royal party proceeded to Grimsby railway station for the journey back to London by the Great Northern Royal train.

A momentous year ended with the prospect of competition from a mooted northern route from Doncaster through the Isle of Axholme to Gainsborough promoted by the South Yorkshire Railway, and a promise from the Stockport, Disley & Whaley Bridge that the Buxton extension would not be pursued in the next Session, coupled with the probability that it might, after all, end up as a joint enterprise between the two railways.

If 1855 was uneventful so far as inter-railway affairs were concerned, it did at least witness some further notable changes and developments within the MS&L itself, a few of which have already been mentioned. Others included the appointment, in February, of Charles Hindley, M.P., and Alexander Shand as Directors to succeed Charles Geach, who had died, and S. M. Peto, who had resigned; the limited application of a contract system for enginemen, as tried out on the Eastern Counties and North Eastern Railways; the provision of improved or additional refreshment rooms at Penistone, Sheffield Victoria and Retford, and of new ones at Barnetby and Ulceby stations; the placing of the whole of the permanent way maintenance in the hands of a contractor; the introduction of prepaid stamps, in co-operation with the Midland, North Eastern, Lancashire & Yorkshire and East Lancashire systems, for through transmission of newspapers at low rates; and the leasing of the Rochdale Canal in November, jointly with the North Eastern, Lancashire & Yorkshire and London & North Western, to combat competition from the Aire & Calder Navigation.1

The changeover from direct control by the railway to contractor operation for permanent way maintenance took place after a group of the Directors,

¹ Bradshaw's Shareholders' Guide Railway Manual and Directory, 1856.

headed by Chapman, had gone exhaustively into the merits and demerits of the two systems. Their examination revealed some instances of serious overspending, especially on station structures, whilst the overall figure for maintenance of both track and stations had risen from £156 per mile in 1849/50 to £224 in 1853/54. In February they came down unanimously on the side of contractor operation for the whole of the company's way and works (including station buildings), both Fowler and Jee having been consulted. Three specifications for contractors were sent to them for comment, one having been prepared by Henry Woodhouse, Permanent Way Superintendent of the LNWR, and another by Watkin himself. In the end, the best features of each were combined by Fowler into one document, copies of which were sent out to 20 reputable contractors. Meantime, James Potter, the Engineer, was relieved of all his duties except the completion of the Birley and Barnsley branches and the closing of old accounts, and Robert Russel was taken on for six months' trial, at £300 per annum, as 'Resident Engineer & Permanent Way Superintendent'.

A tender of £31,000 per annum submitted by James Taylor of Accrington, who had had contracting experience with the London & South Western and East Lancashire Railways, was accepted by the Board on 26th April. It was to run for thirteen years and came into operation on 13th May, before which date Russel had given notice to the MS&L permanent way staff and effected

the transfer to Taylor of all stores and materials.

Financially, 1855 was not a good year for the MS&L. Trade generally had been adversely affected by the blockade of the Baltic ports, owing to the Crimean War. Passenger traffic showed decreases in all categories save 2nd class and the working of the railway had been thoroughly upset in July, when main line traffic had been denied the use of Thurgoland tunnel for a fortnight through the collapse of part of the roof.

Another blow was the illness of Lord Yarborough. During the summer he was stricken with paralysis, after which he never properly recovered his health. He tendered his resignation at the end of July, but was begged to withdraw it. Although he remained Chairman for more than four years to come he was only occasionally able to put in an appearance at meetings and the real burden of directing the affairs of the company fell upon the shoulders

of John Chapman.

It was also in 1855 that the Birley and Barnsley branches, both single track and worked by one engine in steam as in the case of the Glossop and Barton lines, were opened for traffic. In addition, a small station by Pottery Lane, on the main line between Ardwick and Gorton, named Ashbury's after the nearby wagon builder, who erected it for £175, was completed; this made its début in the July issue of Bradshaw's Guide and only Stalybridge branch trains called there at first. Ashbury's became Ashbury's for Openshaw in Bradshaw of November 1855 and Ashbury's for Belle Vue in the issue of August 1856.

The Birley coal branch, $2\frac{3}{4}$ miles in length, for which a tender of £9,989 submitted by Thomas Waring & Company had been accepted at the end of

April 1854, was brought into use in June 1855. The Barnsley branch was completed in three stages. The first, from Barnsley junction, near Penistone, to Dodworth, had been opened on 1st July 1854, coal traffic having begun on 15th May. A service of three week-day and two Sunday trains each way connected at Dodworth with a bus service operated by Smith & Marsden to and from Barnsley. The remainder of the line required legislative sanction because of its deviation, following Fowler's fresh survey of 1852, from the route originally authorized. The necessary Act was secured on 4th August 1853, but construction did not begin until June of the following year, when the tender of Lapaish & Nicholls of £17,400 was accepted. The line was opened as far as Summer Lane, on the western outskirts of Barnsley, in the late autumn of 1855, passenger traffic beginning on 1st November and goods traffic on the 5th of the following month. The final section, between Summer Lane and Regent Street station of the Lancashire & Yorkshire, was built with an eye to future doubling and accordingly cost some £1,300 above the original estimate. It was passed by the Government Inspector, Col. Yolland, in January 1857, but could not be brought into use at once, save for coal traffic, because the L&Y signalling arrangements were incomplete. However, all was ready the following month, and on 12th February the formal opening took place when a special train from Manchester, hauled by locomotive Idas and conveying some of the MS&L Directors, arrived at Regent Street station about noon. The usual festive banquet followed, with T. R. Barker in the chair.

For the use of Regent Street station (which the South Yorkshire entered at the south end), the MS&L paid the L&Y one-third of the staff wages and stores costs. It provided its own goods warehouse, cranes and locomotive shed, costing some £2,300; hard by the junction with the L&Y was installed the first MS&L signal cabin to be referred to as such in the company's minutes.³ The doubling of the Summer Lane – Regent Street section was carried out by W. D. Cameron during April 1857 at a cost of £1,370.

The Barnsley line was slightly more than $6\frac{1}{2}$ miles in length from Barnsley junction to the point of connexion with the L&Y outside Regent Street station. Apart from the three stations already mentioned, there was a fourth, Silkstone, $1\frac{1}{2}$ miles west of Dodworth, and all were connected by electric telegraph with the main system. Summer Lane station was closed for passenger traffic on 1st December 1859⁴ and reopened early in 1867. From Barnsley junction the line continuously descended to Dodworth with a ruling gradient of 1 in 90, threading the 558 yards Oxspring tunnel on the way. After Dodworth the road to Higham was crossed by a flat arch on a skew of 60° and by Summer Lane the falling gradient had steepened to 1 in 67, increasing to 1 in 50 for the final $\frac{1}{2}$ mile into Regent Street station. The

¹ Sometimes referred to as Regent Road station, as in the MS&L Rules & Regulations of 1863 and 1870. There was no Barnsley thoroughfare called Regent Road.

² Successor to the Sheffield, Rotherham, Barnsley, Wakefield, Huddersfield & Goole Railway, which had been leased to the L&Y, and on 2nd August 1858 was vested in that company.

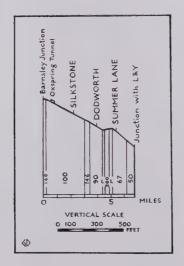
³ Finance Committee 13th March 1857.

⁴ Annals of Barnsley and its Environs by John Hugh Burland.



On 12th February 1857 the festivities celebrating the opening of the line around the north side of Barnsley included a procession through the town, seen here entering Regent Street station. Note early MS&L signal box in background.

[Illustrated London News



Gradient profile of Barnsley branch

section between the two stations in Barnsley, which carried the line around the north side of the town, involved the heaviest engineering work of all, as a cutting some $\frac{1}{2}$ mile in length and averaging 53 feet in depth was necessary. The cutting was crossed by two stone bridges, one of three arches (named Victoria Bridge) carrying the Gawber Road and the other, a single arch structure, for the road to Cawthorne.

Rails weighing 72 lbs per yard, 25 lb chairs and creosoted sleepers were used on the Barnsley branch at the outset. The maintenance of the permanent way, and of that on the Birley branch, was taken over by Taylor in March 1856 for £600 per annum. At Penistone, where the trains to Barnsley began their journey, an additional platform was authorized in May of the same year so as to keep the main line platforms free of branch line traffic.

The MS&L had ended 1855 with a nasty collision between two of its goods trains at Worksop. One of the firemen had had his leg amputated and Watkin complained harshly to the Board of the refusal of some of the inhabitants to help the injured man. Before much of 1856 had elapsed it sustained one of its now almost periodic collisions with the Great Northern. This occurred on 1st March at Woodhouse Junction, an MS&L goods and a Great Northern empty carriage train being involved, resulting in the death of a platelayer. Captain Tyler, the Inspecting Officer, decided that it was due to reckless speeding on the part of the driver of the Great Northern, which company made amends by paying the platelayer's widow £150 and punishing its enginemen who were to blame.

A few months later, on 18th July, the MS&L was approached by a deputation which included the Mayors of Oldham (John Platt) and Ashton-under-Lyne (Nathaniel Buckley). The construction of a line from Guide Bridge to Oldham Mumps, to connect with the L&Y and LNWR, was the object in view and Chapman, who received the deputation, expressed his full sympathy with the idea. He reminded his audience, however, that previous attempts to build such a line had been abortive, including the scheme of the Oldham Alliance Railways, which had embodied the facilities his company desired. But he promised the support of his colleagues and so began a project which resulted in the creation of a useful link known as the Oldham, Ashton & Guide Bridge Junction Railway. From its very inception the MS&L scrupulously kept the L&Y and LNWR informed, and invited their participation, but their response was negative at first. The MS&L accordingly went ahead on its own and in October concluded with the promoters an agreement guaranteeing a maximum of 4% on a capital amount of £150,000. The incorporation of the line, in 1857, and its opening, in 1861, are dealt with later.

On 1st October an agreement was made with the LNWR whereby the Warrington & Stockport Railway should be worked in conjunction with the MSJ&A, an arrangement which was to involve the MS&L in a loss of £323 in the first three months of operation. Eight days later some of the Directors and the General Managers of the MS&L, Midland and LNWR met at Euston Square to confer on future developments in the northern part of

Derbyshire, for the Stockport, Disley & Whaley Bridge was now nearing completion. There is no doubt that both the MS&L and Midland were apprehensive of the intentions of their ally in an area which they held was of common interest. There is also no doubt that at this time the LNWR had already made up its mind to reach Buxton regardless of any obligations to its associates.

The advantages and disadvantages of a line from Whaley Bridge to Rowsley or from Whaley Bridge to Buxton were fully ventilated, and a long discussion ensued, returning always to the inescapable fact that at a time when the three railways were in such close and cordial relationship, unilateral action by one of the partners should be unthinkable, Gamble, of the MS&L, submitted a resolution virtually echoing the sentiments expressed by the Midland Chairman, Ellis, at the opening of the meeting. He suggested 'That considering the state of the money market no action be taken in the ensuing Session as between Whaley Bridge and Rowsley (or intermediately) by any one of the three Companies, who undertake to oppose any scheme promoted by other parties, and that no action be taken hereafter without the sanction of the three Companies as respects the district in which each is interested'. To this Lord Chandos, the LNWR Chairman, objected, taking particular exception to the undertaking to oppose other schemes. He still objected when reminded that this undertaking applied only to the coming Session, and when pressed to be more explicit, stalled by saying that he could not give a definite answer until he had conferred with his Board. On this note of intransigence, which bore an unpleasant resemblance to that so often sounded by his lieutenant Huish, the meeting broke up, and the MS&L and Midland representatives went away more suspicious than ever of North Western designs.



Thus was sown a seed of discord which with the passage of a few months was to burgeon into fierce and relentless interrailway warfare, ultimately leading to the long overdue Nemesis of the hated Huish. To the man-in-the-street, however, who had been treated to a 3s fare from Doncaster to London through competition between the Great Northern and the Euston Square Confederacy, the latter still presented an unruffled front.

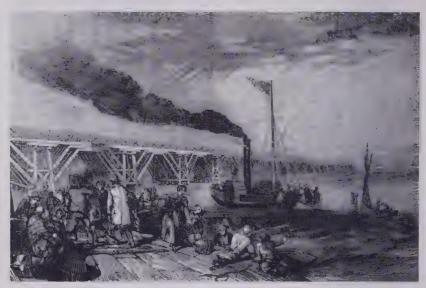
Marine Review, 1847-1863

The MS&L report for the six months ended 30th June 1849 included a list of the boats then operating the New Holland Hull ferry. They were Falcon, Magna Charta, Queen and Prince of Wales, all of which have been mentioned in earlier pages, together with a horse boat. Iron paddle steamer Queen was built in 1842 by Ditchburn & Mare of Blackwall; she had a gross tonnage of 52·4, a length of 99·5 feet, a beam of 13·8 feet and a depth in hold at midships of 7·5 feet. She and Prince of Wales had been purchased on 31st January 1848 from the Greenwich Steam Packet Company for £2,300. Falcon was converted to a goods boat at the beginning of 1849 and Magna Charta got a new boiler in 1860. Few further details of these vessels appear to have survived, but it is known that in November 1853 the Government Surveyors refused to certify Queen and Prince of Wales as fit for the transport of passengers, and a vessel named Petrel was hired for three months from the Waterman's Company. Subsequently Prince of Wales was sold in June 1855

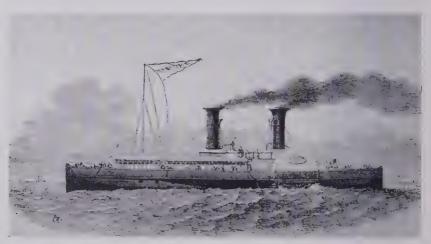
for £1,360 and Queen in August 1857 for £600.

On 12th July 1849 the first steamship to be constructed for the MS&L was launched from the works of her builders, Robinson & Russell at Millwall, with her engines and boilers already fitted. The christening was performed by a Mrs Cole, who named her Manchester. The new vessel had a length of 150 feet, a beam of 22.5 feet and a depth of 10.5 feet. Her paddles were driven by a pair of oscillating cylinders 4 feet in diameter and with a stroke of 4.5 feet. 'They are fitted with a peculiar valve gear', commented the Illustrated London News at the time, 'which enables them to be stopped, started or reversed in their action simultaneously'. To avoid turnround delays Manchester could be steered from each end. 'The rudders which accomplish this', continued the contemporary account, 'are peculiarly strong and accurate pieces of workmanship; the rudder-posts forming what are called snuff-box joints, and the rudders themselves forming part of the lines of the vessel, so as not to be distinguishable from its natural form when used as a bow,' Manchester was provided with a large passenger saloon on deck 50 feet long, 12 feet wide and 9 feet high, fitted with plate glass windows, seats similar to those in a first class railway carriage and a roof with crenellated edging. She cost £,11,930.

Satisfactory trials in company with a smaller sister ship *Sheffield*, costing £5,520, were carried out between Blackwall and the Nore on 6th September and *Manchester* went into service soon afterwards. *Sheffield*, which was built by H. E. Smith of Gainsborough and engined by J. & G. Rennie, was not ready for delivery until mid-1850, as it was decided to lengthen her by 17 feet. But neither of these combined passenger and cargo iron paddle



New Holland ferry and pier in 1848.
[Illustrated London News



Iron paddle steamer *Manchester*, completed in 1849, the first vessel to be built for the MS&L.

[Illustrated London News

steamers were successful on the New Holland-Hull ferry service. They were unwieldy to handle and both, especially *Manchester*, were involved in several collisions. By August 1854 the MS&L had had enough of them and two smaller replacement iron paddle steamers, former Clyde steam packets, were acquired from M. Samuelson & Company of Hull for £6,725 each. These were also named *Manchester* and *Sheffield* and went into service during 1855, in December and July respectively, the former having a gross tonnage of 174 and the latter of 150. Both possessed engines of 150 n.h.p. and could accommodate some 500 passengers.

Their predecessors were renamed Old Manchester and Old Sheffield, spending much of their time laid up at Grimsby and sometimes being used for Humber excursions. In the latter part of July 1858, however, Old Manchester was sent round to the Mersey to ply between Garston and Liverpool on behalf of the MS&L, Great Northern and St Helens Railways. She had such a buffeting on the way that repairs had to be carried out by John Laird of Birkenhead before she could be put into service, and her captain was presented with £5 by the MS&L in recognition of his seamanship. Remaining on the Mersey for the summer excursion traffic of 1859, she returned to the Humber in the autumn of that year and arrived at New Holland on the night of 13th October. Old Manchester was sold at the beginning of 1864; a buyer at Kingston-on-Thames was found for Old Sheffield in September 1863; and Sheffield needed such extensive repairs in May of the following year that she was laid up and eventually sold in 1865.

It is believed that the next addition to the MS&L fleet was built to the designs of Craig, the Locomotive Superintendent, in 1854. She appears to have been named *Royal Albion*, and was a general purpose vessel, for in 1855 she was noted towing mud barges and eight years later, just before she was reboilered, was recorded at work on the ferry service.

Two more iron paddle steamers Liverpool and Doncaster were bought in 1855 and 1856 respectively. These were newly built by Samuelson for the MS&L and their principal features, taken from the monumental Railway and Other Steamers of Duckworth and Langmuir, are given below:

			Length ft	Beam ft	Depth ft	Gross Tonnage	$\mathcal{N}.H.P.$
Liverpool	1		159.6	18.7	8.4	220	90
Doncaster	f		160.5	18.7	8.4	210	80

The bulk of the goods traffic between New Holland and Hull was conveyed in lighters hauled by steam tugs. In April 1850 Allport suggested the use of screw-driven steam lighters and one was ordered from Robinson & Russell three months later. This was called *Economy* and cost £1,075. In March 1854 another similar vessel was bought from Samuelson for £2,000 and named *Thrifty*.

On the opposite side of the Humber the first MS&L offices in Hull were at Walkington's Lodgings, acquired for £850 in January 1849. In August of the same year 7 Nelson Street became the company's booking office for

passengers and parcels, the clerk in charge being given living quarters in the upper part of the house. The premises next door were taken over in May 1854. Goods traffic to and from New Holland was handled at Limekiln Creek. Here there was an MS&L goods station which in 1855 was physically connected with the nearby North Eastern Railway depot by a horse-operated line across Wellington Street. During the period from February 1856 to July 1858 the MS&L premises in Limekiln Creek were handed over to the NER under an arrangement made with that company to perform all the MS&L goods work, including porterage, clerkage, cartage and collection of monies.

Under a GG&SJ Act of 26th June 1846, subsequently repealed and reenacted by the MS&L Consolidation Act of 1st August 1849, the company had powers to establish proper pier facilities at Hull. These were never exercised and, consequently, at low tide, when there was insufficient water for the steamers to approach the quays, passengers had to embark and land by small boats. This slow and awkward method of transfer ended, it is believed, soon after April 1856, when Watkin was authorized to offer the Mayor of Hull an annual contribution of up to £40 per annum towards the cost of landing facilities at the former Corporation Pier. In the same month it was decided to put on a steamer between Barton and Hull on Tuesdays and Fridays to resume the company's right to the Barrow Old Ferry inherited from the GG&SJ.

At New Holland, however, the transfer between rail and steamer was made easy by a landing stage, rising and falling with the tide, which was installed at the end of the pier early in December 1849. This landing stage, or pontoon, was constructed by E. B. Wilson & Company of Leeds for £17,500. It measured 400 feet in length, 50 feet wide and 8 feet deep and weighed nearly 700 tons. When the hull had been built, within the space of nine months, it was conveyed in sections over the Aire & Calder Navigation to Goole, where it was reassembled, completed and launched sideways into the River Ouse. Six tugs then took it down to New Holland, where the work of installation was quickly accomplished.²

By the beginning of 1851 the whole of the works at New Holland were finished. During the period of construction the waiting room at the station was used for religious services for the railway staff, who formed a numerous colony housed in cottages built by the MS&L. A school for their children and those of the workmen was started by a Miss Salmon in 1849, and six years later the company agreed to guarantee a salary of £50 to the schoolmaster in charge so as to ensure that the educational needs of its staff's offspring were met. Subsequently a library was set up. And in the middle of 1857, when a news room and reading room were provided, the MS&L Board decreed that the proceeds of fines imposed, for misdemeanours, upon employees located east of and including Retford should become a fund for the

² Illustrated London News, 15th December 1849.

¹ Renamed Victoria Pier after the Royal visit to Hull in 1854.

New Holland library! West of Retford such proceeds went to the library at Gorton Works, where there was another large staff colony.

At Grimsby the dock installations involved the reclamation of 138 acres from the Humber. The work had been commenced in the spring of 1846 with the construction of a coffer-dam¹ $\frac{3}{4}$ mile into the river beyond the old dock, extending for 1,500 feet in the van of the dock area to be reclaimed. To its front and to the eastward stretched an estuary 7 miles in width, and to the north west the whole current of the Humber, for a reach of twenty miles. Against its front a rise of tide of 25 feet had to be contended with and behind it an excavated depth of 11 feet below low water, which was necessary for the foundation work of the locks. Along with these factors had to be considered the violent storms to which the Humber is not infrequently exposed.

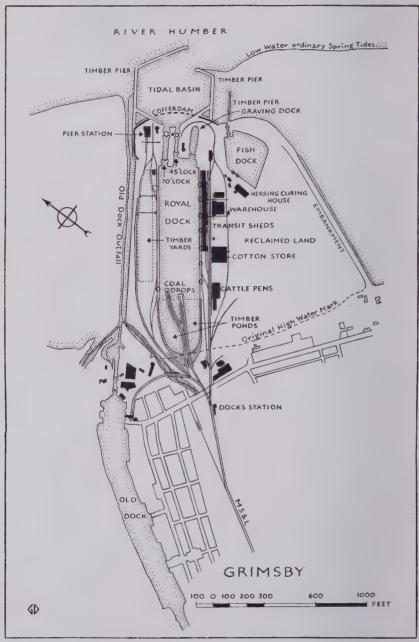
The coffer-dam was constructed of 410,572 cubic feet of Memel fir, in three parallel rows of whole timber piles 14 to 16 inches square. These were securely connected together and supported by counterforts of whole timber sheeting piles, in place of the usual shorings, extending 18 feet from the inner row. The front row of piles was 7 feet apart from the middle row, and the latter 6 feet from the inner row. Thus the coffer-dam was given a base of 32 feet. The puddling between the rows of piles was of clay, mixed with gravel or small quantities of broken chalk stones for the first 5 feet in height.

At the close of 1848 the coffer-dam and its associated works, which consisted of a 2,431 feet long wharf from its west end up to the old dock entrance, and an embankment extending for 1,208 feet at its east end, were finished and the water was excluded from the land which had been enclosed. And by April 1849 the work had advanced sufficiently for Prince Albert to lay the first stone. Then followed the construction of the main dock, the entrance to which was effected by two locks, separated by a wall of masonry 70 feet in width, the larger 300 feet long between the pen gates and 70 feet wide (so as to admit the then biggest warships), and the smaller 200 feet long by 45 feet wide. The machinery for working the gates of both locks which, with its foundations, cost £4,000, was the first of its kind supplied by Sir W. Armstrong for operating dock gates. Hydraulic pressure for the motive power was obtained from a 33,000 gallons wrought iron water tank fixed 200 feet above ground in a distinctive rectangular brick tower built in imitation of an Italian campanile. It was 300 feet in height to the top of the lantern, and soon became a well-known Grimsby landmark. The gates of both locks could be opened in 21 minutes by two men.2

The main dock which, as related in the previous chapter, was eventually called the Royal Dock, possessed an area of 20 acres having a depth of water of 25 feet 6 inches, with a contiguous timber pond of 5 acres; its total area of quays amounted to 22,000 yards. Outside its lock gates was created a tidal

¹ Fully described in Minutes of Proceedings of Institution of Civil Engineers, Vol. IX, 13th November 1849.

² The whole of the dock works were fully described in Minutes of Proceedings of Institution of Civil Engineers, Vol. XXIV, 29th November 1864.



The dock installations at Grimsby in 1863.

basin of 13 acres, bounded by two timber piers, which terminated in circular pier-heads forming an entrance 260 feet wide.

Opened for traffic on 27th May 1852, the full extent of this marine enterprise of the MS&L may be gauged from the plan on page 174. This shows the development reached by the end of 1863, by which time a fish dock, a graving dock and two coal drops had been added. The 6 acre fish dock was authorized at the end of 1854 when Sissons' tender of £6,996 was accepted; it was completed in the early part of 1856 and the addition of a 400 feet long by 35 feet wide timber pier for the landing of fish brought the total cost up to £12,000. One of the coal drops, built by Rutherford for £3,435, came into use during the same period, and soon afterwards a second, costing £3,500, was taken in hand. The order for the graving dock could not be placed until mid-1855, owing to lack of money. This was constructed by James Taylor and had cost £32,000 (excluding pumping machinery) by the time it was finished in February 1858. Its entrance was 70 feet wide, its length, for keel on the blocks, 350 feet and the width of its convex floor 52 feet. Its gates were similar in construction to those of the 70 feet lock.

The Great Grimsby Docks undertaking involved the MS&L in a total expenditure of about £1,050,000 up to the end of 1863, this including £112,207 for the purchase of the Old Dock and outfall, and the cost of land, reclamation and construction of the Royal Dock, but excluding interest on capital. It represented a big stake in the fortunes of a company which had never yet known prosperity, but as the years went by the foresight and faith of its advocates were amply proved. In 1853, 530 vessels of a total tonnage of 134,334 to and from foreign ports called at Grimsby; by 1863 these figures had grown to 1,367 and 317,593 respectively. No coal was handled at Grimsby in 1853, but ten years later 170,000 tons were exported there, supplemented

by timber imports to the tune of 121,604 tons.

This promising growth in the importance of Grimsby did not take place without unremitting enterprise and endeavour on the part of the MS&L. In March 1852 the Board was in negotiation with the North of Europe Steamship Company and, by guaranteeing 5% on its capital, ensured that as soon as the Royal Dock was opened, a passenger and cargo service would be established between Grimsby and Hamburg. This began in May with the City of Norwich, which provided a weekly service; in addition a packet was operated each week to and from Rotterdam. Pressure on the part of the MS&L and some of its principal shareholders persuaded the North of Europe to double the Hamburg ervice at the beginning of 1854 and at the end of 1856 Grimsby enjoyed further services – mainly cargo – once weekly to Königsberg and Memel and each alternate week to Tonning.

But this was not good enough for the MS&L, whose Bill to charter and hire steamships for the Grimsby trade had been thrown out in the 1855 Session. It now contemplated backing the formation of a steamship company with an eye to the export, through Grimsby, of South Yorkshire steam coal to French ports. And in the late summer of 1855 it was decided to promote the Anglo-French Steamship Company in concert with the South Yorkshire Railway

and a French group. In December the constitution of the Board was agreed. Lord Yarborough, John Chapman and George Gamble were to represent the MS&L; William Gordon Thomson, Dr Robert Dymond and Samuel Roberts the SY; and H. Worms, E. F. Mallet and A. Grandchamp the French interests. The venture was registered as a limited liability company on 13th March 1856 and by July three steamers were in operation. This was not to the liking of the North of Europe, whose Hamburg sailings had dropped back to one a week since March, and on 22nd August it peremptorily informed the MS&L that its service would cease the following day. As a result the company had to enter into hastily improvised and expensive alternative arrangements with Pearson & Coleman until Anglo-French could step into the breach.

The Anglo-French vessels ultimately consisted of the three paddle and five screw steamers listed in Appendix VI. They eventually formed the nucleus of the extensive Continental fleet the MS&L began to develop from the mid-sixties onwards, in anticipation of which sufficient of E. F. Mallet's holdings were bought in May 1857 to afford greater control of Anglo-French affairs.

Upon the outbreak of the Crimean War in 1854 the MS&L tried to persuade the Government to make use of Grimsby as a port of shipment for stores for the Baltic fleet. In this, as in an attempt made later to get coal needed for the Navy shipped through Grimsby, they were unsuccessful. Why, in the latter case, Lord Yarborough's efforts with the Government failed is a mystery. The MS&L was at the time moving naval coal to New Holland, destined for Gibraltar, at 138 6% per ton, vet identical coal - South Yorkshire or Darley Main hard - for the Baltic fleet through Grimsby was offered, and rejected, at 28 6% a ton less! During hostilities the MS&L gave the Government permission to mount guns for defence purposes on the piers at Grimsby for a shilling a year. War was conducted in a gentlemanly way in those days!

The first of a long line of Portmasters at Grimsby, John Whitford of Liverpool, assumed his new responsibilities on 1st December 1856; he resigned to set up his own business as a shipping agent for the MS&L in mid-1860 and was succeeded by Reed. In October 1857 the company decided to employ its own police for the dock installations, beginning with a modest force of three men who were paid 200 a week, with uniform.

Perhaps the greatest achievement of the MS&L at Grimsby was to lay the foundations of an industry which eventually made the name of the town synonymous with fish. Combining with the Great Northern and the Midland to invite more fishermen to settle in Grimsby, it quoted very small dues and, despite the war, began the construction of the fish dock. To get practical experience of the business it sponsored the formation in April 1854 of the Deep Sea Fishing Company with which, by the end of that year, both the Great Northern and Midland became associated. This railway-created venture was launched with nine vessels, given in Appendix VI, and by the end of 1856 the three companies had subscribed between them £13,000 to make it a going concern. With the completion of the fish dock followed the installation of an ice house, and in 1858 the construction of 50 houses for

fishermen was taken in hand at the joint expense of the MS&L and Great Northern.

The weight of fish forwarded by rail from Grimsby in 1852 had amounted to 500 tons; in 1863 it had risen to 10,360 tons, and as many as 300 smacks of some 40 tons apiece regularly bustled their way into and out of the fish dock. Grimsby was preparing to become the greatest fishing port in the world.



Hull-New Holland 1st class single ferry ticket; colour, orange.

[From the collection of Mr. W. E. Hayward]



C. Hicks, Tathographer, Wakefield.

An abortive scheme of the middle 'fifties, the Barton, Blyton & Gainsborough Railway. The map is reproduced from the prospectus (from the Stubbs Collection in the keeping of the Lincolnshire Archives Committee) which was dated September 1856. Amongst the fourteen-strong Provisional Directors of the venture were Lord Yarborough and William Hutton of the MS&L Board, which was prepared to work the line, on the Act being obtained, for a charge of 50 per cent on the gross profit.

XIV

War and Peace

The protectionist policy so tenaciously pursued by Huish had now nearly run its course. In its purpose, to strangle the Great Northern, it had been a lamentable failure. Whether it had increased the nett revenues of the London & North Western is questionable. Certainly the satellites it embraced were no better off, and so far as the MS&L was concerned there still existed a not inconsiderable body of shareholders contending that the Great Northern was the natural ally of the company. There were also those who objected to a close tie with a railway which by now was quite notorious for its despotic behaviour towards its neighbours. Even those who had sponsored the entry of the MS&L into the Euston Square Confederacy had become increasingly uneasy because of the one-sided nature of the alliance. Since Huish had taken the place of Hudson on the centre of the railway stage the attitude of mind at Euston Square can be summed up in words Orwell might have used had he been writing at that time, 'some railways are equal, but the London & North Western is more equal than others'.

After the inconclusive meeting of the confederates in October 1856 the Midland advised the MS&L to survey a line of its own from a junction with the Stockport, Disley & Whaley Bridge, at Whaley Bridge, to Buxton, making use of the route of the Peak Forest Tramway. At the same time it expressed the intention of promoting a through scheme of its own from the Rowsley terminal of the stunted Manchester, Buxton, Matlock & Midlands Junction (which it worked) if the LNWR persisted in entering Buxton. The plans of the MS&L for the coming Parliamentary Session accordingly included the resurrection of the Whaley Bridge line from Hyde, going via Romiley or Compstall Bridge, New Mills (with a branch thence to Hayfield), Bugsworth, over part of the Peak Forest Tramway, and thence to Buxton. In December Chapman and Watkin set out to canvass the district for the financial support which such a line needed, and which the MS&L could not give unaided.

Notwithstanding these precautionary measures, and an increase of more than £16,000 in the traffic receipts in the latter half of 1856, Chapman knew only too well that the MS&L was still financially too weak to hold its own without a strong ally. Huish's seven years' treaty of 1850 was soon due to expire. Why should it not be renewed, on a much more intimate basis, to the advantage of the three partners concerned? On New Year's Day 1857, Chapman, who through illness was confined to his home at Hill End, Mottram, took up his pen and propounded this idea in a letter to John Ellis of the Midland. 'I am ready to go out of my way to bring about a complete fusion of interests, which must lead to great economy and final development', he wrote. As to Buxton, he frankly admitted the financial inability of

the MS&L to get farther than Compstall Bridge, and said that a general truce would have been by far the best arrangement, despite the fact 'that our LNWR friends are constantly telling us of your aggressive intentions'. In a further letter to Ellis on 12th January he expressed himself in favour of a common fund for the traffic receipts of the LNWR, Midland and MS&L, the whole of the accounts being kept at Euston or some other central point under the control of a joint officer to be appointed. Each company would take an agreed portion for working expenses. The traffic of the three systems could be managed by a joint committee which would elect a chairman, having a casting vote, for the year. The districts of the officers should, he suggested, be recast so as to obliterate distinctions between one company and another.

Chapman's ideas were supported by the Midland, and after a conclave of some of the directors of the two railways it was left to Ellis to arrange with Lord Chandos a meeting between the three companies. Meanwhile, in an unsettled accounts dispute between the LNWR and the MS&L, Watkin was instructed to make all reasonable concessions, 'the Directors of the Company being desirous of doing nothing which could have the effect of irritating the London & North Western Board'. To accord with this conciliatory line the MS&L Board decided on 2nd May, when Lord Yarborough put in one of his rare appearances, not to proceed with its contemplated Buxton Bill as soon as a modus vivendi could be reached with the Stockport, Disley & Whaley Bridge. And on the 15th a meeting was fixed with that company and the LNWR to take place six days later at the Euston Hotel.

But now a protectionist bird of profound significance was coming home to roost. The beginning of its flight was, by a strange coincidence, on the 'Little' North Western Railway (so-called to avoid confusion with its greater namesake), which extended from Skipton to Lancaster and Poulton (now known as Morecambe), and which, by another coincidence, was worked by the Midland. In the Session of 1856 the 'Little' North Western had attempted to get running powers over the Midland and Lancaster & Carlisle Railways to enable it to carry Anglo-Scottish traffic on behalf of the Great Northern. Its Bill was supported by the latter and vigorously attacked with every available weapon by the Euston Square Confederacy which, at considerable legal expense, managed to secure a narrow victory. But during the crossexamination which had taken place, E. B. Denison, O.C. (son of the Great Northern Chairman), had been able to lay bare the closely guarded and illegal 'common-purse' agreement which existed between the London & North Western and the Midland. Euston Square was now vulnerable to a Chancery suit, and, in the spring of 1857 Isaac Burkill of Leeds, who was a Director of both the Great Northern and 'Little' North Western, filed the necessary petition. With its legal advisers counselling that the position could not be defended, Euston Square had no option but to terminate the commonpurse agreement, and this was done on 12th May 1857.

Thus the main plank upon which the Confederacy rested was destroyed at one blow. Yet there was nothing to stop the allied railways continuing to work together in a spirit of amity which might have led to ultimate fusion

London and North Western, Manchester, Sheffield and Lincolnshire, and Midland Railways.

The Public are informed, that on and after the

11th FEBRUARY,

And until further Notice, the above Companies will continue Working

SHEFFIELD.

(VICTORIA STATION,)

AND

At a further Reduction of Fares, and at Times as under:

UP	TRAINS.		A.M.		Р.М.
Sheffield	Victoria Sta	tion dep	. 11.	0	5.30
London	•	arr.	4.	0	10.20
DOWN	TRAINS	3.	A.Wi		P.M.
London		dep.	9.45		5. 0
Sheffield	-	arr.	2.30		9.45

FARES EACH WAY:

First Class, Second Class, 11s. 3d.

NOTE. The Fares to and from London by the above Commies' Route will in no case exceed those charged by any other empany.

By Order,

MARK HUISH.

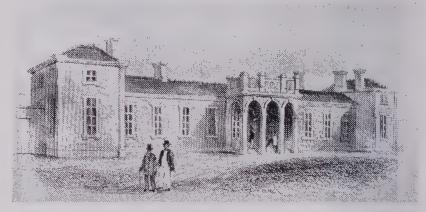
Peb. 9th, 1866.

JAS. ALLPORT,

ED. WATKIN.

[W. Bemrose and Sone, Printers by Steam Power, Derby.

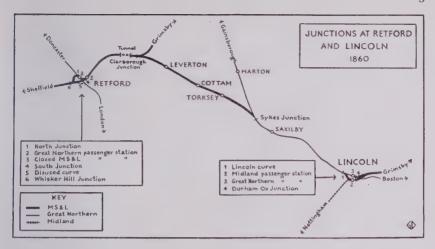
Joint publicity by the LNWR, MS&L and Midland. A Sheffield-London fast train service handbill of 9th February 1856. The printers' legend in the bottom right-hand corner is worth noting.



Front of the MS&L station at Retford which was closed in 1859.

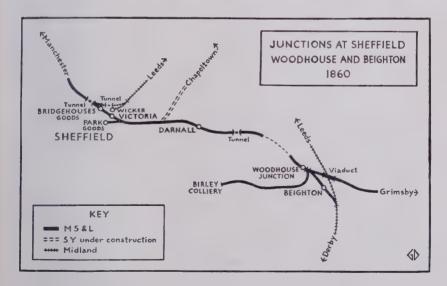
and considerable economies in operation. Had the LNWR then possessed a General Manager not only of vision but of integrity this could have been the outcome. But at the helm was Huish, vain, petulant, ruthless and avid for power, whose brilliance in internal administration was dwarfed by his utter unscrupulousness and complete disregard, when it suited him, of honourable obligations, written and unwritten. Within a week of the collapse of the policy which had brought the Confederacy into being, Huish took the step for which Chapman and Watkin knew they must always be prepared. On 19th May he called upon Seymour Clarke at King's Cross and offered the Great Northern General Manager a hard and fast territorial division between the two systems.

Fortunately for the MS&L Seymour Clarke had already had his reputation bruised enough by the craft and deceit of his opposite number at Euston Square to be described by E.B. Denison as 'the best of traffic managers but the worst of negotiators'. Once bitten, twice shy, he realized that the archenemy of the Great Northern must indeed be in trouble to make such a proposition. What would Huish's allies, the Midland and, particularly, the MS&L, think of this betrayal, he wondered? Was it now possible, with their aid, to turn the tables upon the North Western? He refused to entertain Huish's offer and mentally resolved to make it known to Watkin at the first opportunity. He rightly considered that it was upon Watkin that the news would make the greatest impact. Besides, if the MS&L was transformed from



a satellite of Euston Square into an ally of King's Cross, would not the Great Northern be on the road to Manchester?

Two days later some of the MS&L Directors arrived at the Euston Hotel for the Buxton line discussion. They found an empty meeting room, for owing to 'some misunderstanding' neither SD&WB nor North Western representatives were present, and it was impossible, so they were told, to summon them that day. The MS&L Directors returned chagrined to Manchester and at the next meeting of the Board on 29th May, the agreement



with the LNWR was given 'most anxious and mature deliberation'. The opinion was minuted that it had not been carried out, or had been broken by the LNWR, for the following reasons:

1. In the non-interchange of working stock

2. In the non-connecting of trains and continuous working of traffic

3. In the non-direction over the MS&L of traffic now sent by LNWR by other routes

4. In the deduction from the traffic amounts secured by the MS&L various sums which, though allowed without prejudice and for the sake of peace, were not legally or equitably claimable by the LNWR

. By the negotiation and settlement of important agreements with other com-

panies, without notice to, or assent from, the MS&L and

By the prosecution of lines competing with MS&L traffic under the names of local parties,

The minute was entrusted to Chapman and Turner to communicate to the North Western with power to meet its Board, 'should it be the desire of that company to resume the discussion of the general relations of the two

companies'.

It is conceivable that when this resolution was passed Watkin had already some inkling of Huish's duplicity, because some vital days elapsed before the LNWR was informed of the MS&L minute, but there does not appear to be any evidence that this was so. In any case, the MS&L was by now aware of the fact that the ending of the LNWR and Midland common-purse agreement meant that its own treaties with the former were legally valueless. According to Grinling, the Great Northern historian, it was at a fish dinner given by the Earl of Yarborough at Grimsby on 1st June 1857, to which Seymour Clarke had been invited, that the news was broken to Watkin. It certainly had the anticipated effect and as soon as the dinner was over, Seymour Clarke took from his pocket proposals he had drafted in readiness. By the time the two General Managers parted the foundations for a close alliance, based upon a complete interchange of traffic between the two systems, had been laid. Nevertheless, when Watkin reported to Chapman, the latter prudently instructed him to see Huish, tell him that the MS&L had heard of his alleged approach to the Great Northern and give him the opportunity of denying it. This Watkin did on 4th June and, of course, the denial was not forthcoming. Two days later Chapman sent the MS&L Board minute of 29th May to Lord Chandos, and in his covering letter stated: '... since our last Board Meeting it has, I am sorry to say, come to my knowledge that attempts have been made through officers of your company to make agreements detrimental and hostile to this company, and without any notice having been given to us. I wish to place this fact on record, and leave myself to act upon it as may be for the interest of this company.'

This charge of breach of agreement, both in the minute and in Chapman's letter, was indignantly denied by Lord Chandos, and much verbal fencing was indulged in at meetings held between deputations from the Boards of the disputants and of the Midland, together with the three General Managers, at Euston Hotel on the 12th and during the evening of the 16th June. At the

second encounter Chapman said that if Lord Chandos and John Ellis would retire with him to an adjoining room he would put them in possession, privately, of the authority upon which he had acted; he had not the permission of the parties to do so publicly. This was unacceptable to the LNWR Chairman and the rupture was complete.

It was during this critical period in the affairs of the MS&L that Watkin, who was rapidly demonstrating that he was quite the equal of his former tutor Huish as a railway tactician, raised with Chapman the question of his future with the company, although, in fact, his contract did not expire until the end of 1858. Already, with the blessing of his Directors, he was on the Board of the Oxford, Worcester & Wolverhampton Railway and Liberal Member of Parliament for Great Yarmouth. But railways, more than politics, were in his blood and his sights were set far beyond the confines of the MS&L. In 1855, George Carr Glyn, then Chairman of the LNWR, had asked for his services for about seven weeks in Canada in connexion with Grand Trunk Railway matters; it must have been a bitter disappointment to him when his employers ruled that he could not be spared for so long a period. That he was determined to get greater freedom for himself is evident from the terms of his renewal contract which were approved at the Board meeting on 16th June 1857. It was then unanimously agreed that he should continue as General Manager for seven years from 1st January 1859 at his existing salary of $f_{11,200}$ plus $1\frac{1}{8}\%$ on all increases of earnings over those for the year ended 31st December 1857; that he was to be responsible for the proper conduct and management of the railway, but not to be required to give his whole time to the company; and that John Chapman, in his individual capacity, and not necessarily as a Director, was to be the sole judge of whether or not he gave sufficient time to the company. What a tower of strength he possessed in Chapman! By 1861, his last year as General Manager, Watkin had become an Auditor to the Oldham, Ashton-under-Lyne & Guide Bridge Junction, represented the MS&L on the Boards of the MSJ&A, the Cheshire Midland, and the Stockport & Woodley Junction, and was a Director of the West Midland (successor to the OW&W), the Hereford, Hay & Brecon, the Boston, Sleaford & Midland Counties and the Grand Trunk of Canada. If he denied himself a higher paid general managership on a bigger system by remaining with the MS&L, Watkin certainly more than made up for it in director's fees!

The groundwork which had been so slickly accomplished at the fish dinner was given its finishing touches during the ensuing fortnight. Edmund Denison, the great Chairman of the Great Northern, wisely insisted that the MS&L must unequivocally be 'off with the old love' before being 'on with the new' and that the alliance should in all respects be an open one. As soon as the MS&L had declared that all agreements with the LNWR were at an end the way was clear for both railways to hold special general meetings of their shareholders to explain the terms of the treaty, which was to run for fifty

¹ From 1857 to 1858.

years, and get their blessing to its legalization in the next Parliamentary Session. These took place on 8th July and at the MS&L gathering at the Palatine Hotel, Manchester, written confirmation of Huish's perfidy, supplied by Seymour Clarke, was given to those present. Chapman had the satisfaction of getting unanimous approval for the drastic change of front.

Parliamentary sanction for the new alliance was, in fact, only desirable for that part of the treaty under which, to clinch the deal, the Great Northern had promised the MS&L a bonus mileage on the division of the London traffic and a guarantee of £10,000 a week gross receipts. Neither company was to exercise new running powers over the lines of its partner and the physical connexions between them at Retford, permitting through running between London and Manchester, had been in existence for several years. All that had to be executed was a complete somersault in the pattern of the timetable. Hitherto, at the behest of Euston Square, the Manchester trains of the MS&L had not connected at Retford even with the local services of the Great Northern between Peterborough and Grantham, in case 'a single through passenger should escape from the London & North Western net'. Now, through trains were to be put on between King's Cross and London Road, with which the Sheffield-Penistone-Huddersfield service was to be modified to connect, performing the journey in 5 hours 20 minutes, precisely the same time as from or to Euston Square. And this despite a route 15 miles longer and a more difficult road, especially west of Sheffield. An essential preliminary was the rehabilitation of the undernourished MS&L metals between Manchester and Retford. On 26th June Russel, the Engineer, was instructed to get the permanent way into a condition fit enough for a timing of 105 minutes for the 64-odd miles, including an intermediate stop at Sheffield; and on 3rd July he was asked to replace with timber-sleepered track the last vestiges of stone block road, which was still in use between Wadsley Bridge and Oughty Bridge, before the end of the month, for the new service was to come into operation on 1st August.

Upon the same date the MS&L intended to reassume responsibility for the staffing of its offices at London Road station which, in the interests of economy, had been handed over temporarily to the LNWR at the end of 1854, together with its goods station at the same place, and informed Euston Square accordingly. In so doing, the Directors did not reckon with the simmering fury of a railway company and the lengths to which its General Manager was prepared to go, when threatened with the invasion of one of its most sacrosanct preserves. A fortnight later, on 17th July, came the prelude to a declaration of war, with the return to the MS&L of the 17 North Western Directors' ivory passes over that system taking the place of the recall of an ambassador. Rather reluctantly, the MS&L instructed Ross to send back to Euston Square the LNWR passes held by its directorate. In those times the exchange of all-line passes was carried out on an extremely modest scale and in the case of the MS&L most were recorded in the company's Finance Committee minutes. Generally such reciprocity was confined to railways with which especially cordial relations had been established. So far as foreign companies' officers were concerned the exchange was even more restricted and, apart from the General Managers, Kirtley, Ramsbottom and Sturrock, the Locomotive Superintendents respectively of the Midland, LNWR and Great Northern, were amongst the few who enjoyed MS&L 'general' passes at this time.

The new service of 5 hours 20 minutes between London Road and King's Cross consisted of but two trains daily each way except on Sundays. An advance copy of the timetable smuggled into the hands of the LNWR by some fifth columnist in the camp of the allied companies enabled Huish, on the eve of its introduction, peremptorily to command Watkin not to allow his morning express to leave Manchester less than ten minutes before or after the departure of the LNWR 10.0 a.m. train. In fact, the up trains were scheduled to leave at 9.55 a.m. and 5.20 p.m., making stops en route at Penistone, Sheffield, Retford, Grantham, Peterborough and Hitchin. In the reverse direction it was a matter of first come, first served at the junction at Ardwick, where the two lines from the south become one for the remaining $\frac{3}{4}$ mile into London Road. The down trains left King's Cross at 10.0 a.m. and 5.30 p.m., and made the same intermediate stops, with the 5.30 p.m. train calling additionally at Ardwick.

A foretaste of the violent competition about to ensue was given in the North Western September timetable. This introduced eleven trains each way instead of eight, and accelerated the express timing by 40 minutes to 4 hours 40 minutes and the 'Parliamentary' timing by no less than $3\frac{3}{4}$ hours to 7 hours. Nor was this all. 'Express' fares were abolished and plentiful and cheap excursions announced for the Art Treasures Exhibition at Manchester. Yet although the allied companies could not manage a better timing than 5 hours, their punctuality was so superior that their trains, scheduled to take 20 minutes longer, were frequently the first to reach the vital junction at Ardwick.

Even before this stage had been reached difficulties arose at London Road station, where the North Western staff suddenly became quite inadequate to deal with the traffic of the MS&L. With little but vitriolic correspondence now being exchanged between Huish and Watkin, an attempt was made by Chapman towards the end of August to remove the obstacles which were being deliberately created. Accompanied by Lees, he met Edward Tootal of the rival Board, who at first dissembled and then launched a tirade of violent abuse. But Chapman was broad-backed and persistent. Before the unpleasant encounter was over he took away with him Tootal's written promise that the LNWR would carry out the working of the station in accordance with the agreement. This, however, turned out to be a 'scrap of paper'. On 17th September, when the notice to terminate the working of the passenger business by the North Western expired, two clerks were despatched to take over the booking of MS&L passengers. One was refused admission and the other, who managed to get into the office, was forcibly ejected by North Western staff.

These and other lively scenes in the fray at London Road were graphically

described by E. B. Denison on a later occasion: 'The North Western authorities began to take people into custody for coming by the Sheffield trains into the Manchester station; they frightened an old lady out of her wits, and distracted several feeble people; but at last they got hold of a lawyer, who showed them they had "caught a tartar"; and so after that no more passengers were apprehended. We' (that is the MS&L, as whose counsel Denison was speaking) 'had painted up our names over our shop, but they, being in possession, which is nine points of the law, swept them out with their brush. They kept a truck standing in front of the platform, and left timber trains in front of our express trains. They turned our clerks out of the booking office – indeed they nailed up the part which the Sheffield Company had been accustomed to use, and when one of the clerks, acting under instructions, made his way in through one of the windows, they ejected him by the same way – "not, I hope", wrote their solicitor, "with unnecessary violence".'

As in the case of conflict between so-called civilized nations, each of the belligerents went to considerable pains to proclaim the justice of its cause, both at meetings of shareholders and in letters to the newspapers and periodicals, which must have had a surfeit of railway copy. Bradshaw's Shareholders' Guide, Railway Manual and Directory of 1858 contained no fewer than 36½ closely printed pages of statements, correspondence and minutes submitted

by the opposing sides.

By February 1858 the warring companies were carrying excursion passengers from London to Manchester and back for 5s, and 'giving them 15-inch seats, stuffed cushions and backs to lean against', to quote a disgruntled Great Northern shareholder. Much less spectacular, but equally violent, was the struggle for freight. The North Western attempted to bribe MS&L clerks for information and cut its rates for traffic between Lancashire and Leeds, Lincoln and Peterborough, Naturally enough, other companies soon began to protest. At the beginning of hostilities the Lancashire & Yorkshire had offered to mediate. The Midland then followed, equally without success, with peace terms which included the free use of London Road station by the MS&L and the appointment of an arbitrator for the MSI&A line. In March, and again in April, a deputation of Chairmen and Directors from the Midland, North Eastern, Lancashire & Yorkshire and East Lancashire Railways made a combined effort as peacemakers. They were met with a spirit of conciliation by the MS&L and Great Northern but the North Western, peerless at evasion, remained obdurate.

Not until the closing stages of the Parliamentary struggle had been reached were the attempts to end the strife attended by any success. In the House of Commons Committee Room the fight raged over twenty-one sittings, with the Denisons, father and son, Robert Baxter (the Parliamentary Agent of the MS&L) and Serjeant Wrangham verbally battling shoulder to shoulder for the allied companies. The concluding rhetoric of the last named is worth repeating. 'A decision in favour of the petitioners', he argued, 'will tell the world that their obstructive agreements for locking up the trade of a commercial country are looked upon with distinguished favour by a tribunal

REAT NORTHERN RAILWAY. LONDON (King's-cross Station), MANCHESTER, WAR-

From London.—King's-cross Station.								
Leave	Arrival	Arrivat	Arrival					
King's-cross.	Manchester.	Chester.	Liverpool.					
6 50 a.m.)								
7 30 ,, }	4 26 p.m.	4 25 p.m.	4 40 p.m.					
9 15 ,,)	•							
10 0 ,,	3 0 ,,	4 25 ,,	4 40 11					
10 15 ;;	8 45 ,,	11 20 1	11 40 ;;					
1 45 p.m.	10 20 11	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						
5 0	10 0	11 20 ,,	11 40					
	PROOF CHEN	TER, AND MA						
Leave	Leave	Leave	Arrival					
Liverpool.	Chester.	Manchester.	King's-cross.					
		6 5 a.m.	4 15 p.m.					
		9 15 ,,	4 0 .,					
8 10 am.	8 45 a.m.	9 55 11	2 55 ,,					
8 58 ,,		11 30 11	6 0 ,,					
33 10 ,,		1 45 p ma.	9 30 ,,					
8 ló p m.	3 40 p.m.	50,,	19 0 ,,					
6 50 ,,	7 40 ,,	9 30 ,,	3 30 a ma.					
EUNDAYS.								
Leave	Arrivai	Arrival	Arrival					
King's-cross.	Manchester.	Chester.	Liverpool.					
5 0 p.m.	10 0 p.m.	11 20 p.m.	11 40 p.m.					
Leave	Leave	Leave	Arrival					
Liverpool.	Chester.	Manchester.	King's-cross.					

5 0 p.m. Express Cmnibuses run bet ween 12. North John-street, Liverpoo's and Garston, in connection with Through Trains between Garstoa and London, King's-cross tation.

3 40 p.m.

7 45 p.m.

10 0

and I ondon, King's-cross station
RETURN TICKETS, at 71s. First Class, and 12s. 6d. Second Class,
available for 7 days, and at 37s. First Class, and 17s. Second Class,
available for 23 days, are issued by all Trains between London
(King's-cross Station) and Statey Bridge, Ashton, Guide Bridge,
Manchester, Warrington, Chester, Garston, and Liverpool.
Care must be taken at London-road batton, Manchester, to ask for
lickets vill the Great Northern rone.
Tickets at the above fares can be obtained at the King's-cross
Station, and [for Manchester only], at the Great Northern Receiving
Office: Bull and Month, et. Martin's-le-Grand; 16, Fish-street-bill;
264, Holborn; 32, Regent-cicus, Piccadi ly; 62, and 63, Bridge-road,
Lambeth; 899, Strant; 38, Chariog-cross; 27, King-street, Cheapside; 331, Oxford-street; George Inn, Borough; 43 and 41, Crutchedriars.

For further particulars see the Time Tables of the Company, and the Hand-bills.

King's-cross 8 ation, March 1, 1859.

3 15 p.m.

GREAT NORTHERN, and MANCHESTER, SHEFFIELD, and LINCOLNSHIRE RAILWAYS.—CHEAP EXCURSION TRAINS between LONDON (King's-cross Station) and MANCHESTER, commencing THURSDAY, 25th FEBRUARY, unit further notice, as under:—

EVERY WEDNESDAY AND					EVERY			AND	
, 8.4	TURD	AY.	,	Morn.	TI TE	iurs	DAY.	,	Morn.
Ling's-cross				10. 0				dep.	10 25
Guide Bridge Ashton		• •	air.		Staleybridge		6.0	19	9.10
Staley bridge	**	• •	99		Ashton Guide Bridge	• •	**	11	10.45
Manchester	**	** 1	. 27		King's-cross			arr.	5.40

Fares, bs., Closed Carriages for the Double Journey to or from the above-named Stations and King's-cross.

Tichets issued from King's-cross on Wednesdays and Saturdays are available for return either on the Monday or Thursday in the follow-

available for return either on the Monday or Thursday in the John-lag week.

Ilckets Issued from Manchester, Staleybridge, Ashton, or Gulde Eridge, on Mondays, are available for return either on the Wednes-day or Saturday following; and those issued on Thursdays are available for return either on the Saturday or Wednesday Jollowing.

The Tickets are not transferable, and are only available by the above Trains.

London, King's-cross Station, 22nd February, 1858.

London-Manchester train service and excursion advertisements of the allied companies which appeared in the Illustrated London News of 6th March 1858.

such as this, and that the sanction of the legislature has been given to that which legislation has previously sought to control. It is for you to say whether, yielding to the arguments of my learned friend, you shall denounce competition in the free passage of commerce between, perhaps, our largest emporium and the greatest and wealthiest of the world's capitals. With you it is to say whether that route existing, constructed, in which untold millions are invested, shall be rendered available for the public, or shall be inflexibly closed against it. It is for you to choose between the two courses laid before you – to give to commerce that which is her life – freedom or, if you please, to make monopoly immortal.'

The Committee, chaired by Sir John Hanmer, unanimously decided in favour of the 'Great Northern and Manchester, Sheffield & Lincolnshire Traffic Arrangements Bill' after deliberating for six hours; simultaneously, it declared as *ultra vires* and contrary to public interest the MS&L and LNWR private agreement of 1854. Despite opposition experienced in the House of Lords, the Bill received the Royal Assent on 23rd July 1858. On the same day the Act for appointing a standing arbitrator for the MSJ&A was obtained. Captain Galton, Secretary of the Board of Trade, was first offered this unenviable task, but he declined it as incompatible with his duties. Joseph Heron, the Town Clerk of Manchester, was then suggested by the MS&L, but he was unacceptable to the LNWR, and it was not until August 1859 that a man enjoying the confidence of both sides could be found. He was Captain William O'Brien. General Manager of the North Eastern Railway.

With the fifty years' alliance between the MS&L and Great Northern now legalized, the peace-making companies made a fresh effort to end the conflict. Although at three well-attended meetings, presided over by H. S. Thompson, the North Eastern Chairman, it was not found possible wholly to reconcile the viewpoints of the opponents, the climate for an early end of hostilities was created. There were no fewer than nineteen railways represented at the third gathering, which was held on 7th October 1858 and notable for the first resolution passed. This was recorded in the following words: 'That it is desirable to give a more permanent organisation to the present Conference of Delegates, and that an association be now formed called "The Railway Companies' Association".' A Committee was appointed to draw up Rules and Regulations and define the objects of the Association, consisting of

Samuel Beale (Chairman, Midland)
Marquis of Chandos (Chairman, London & North Western)
George Leeman (Deputy Chairman, North Eastern)
Sir Andrew Orr (Chairman, Glasgow & South Western)
The Hon. F. G. B. Ponsonby (Chairman, Great Western)
H. S. Thompson (Chairman, North Eastern)
Edward Watkin (Director, Oxford, Worcester & Wolverhampton)
George Wilson (Director, Lancashire & Yorkshire)

who assembled for that purpose on 4th November at the Railway Clearing House, the venue of the first regular meeting of the Association on 9th December. So was born a valuable inter-railway organization which took as its objective and as its motto 'Railway improvement by all and for all' and which, in its final form, lasted until the unification of the companies by nationalization in recent times.¹

The bitter and insensate railway war was now virtually over. Since June 1858 there had been a partial armistice, when a temporary agreement to charge equal rates and fares by both routes had been reached. Now the greatest obstacle to peace, the Euston Square attitude of mind, underwent a slight change for the better with the resignation of Mark Huish. This the LNWR Board accepted on 11th September, when he was given a free pass for life, and £3,000, the equivalent of eighteen months' salary. During the course of the year his position had become increasingly untenable. He steadily lost the confidence of his Directors, and as early as February one of them, Samuel Ashton, had written that it would be better for all concerned if he would 'bottle up his virtuous indignation and not say in writing all he may feel about Watkin'. In fact, in his correspondence with the MS&L General Manager there is evidence enough to show that Huish was incapable of seeking an assurance without at the same time uttering a veiled threat. In fairness to him it can truthfully be said that he wore himself out in the service of the LNWR. It is equally true to say that the railway world was a better place without him.

Peace was patched up at Euston on 12th November. The principle of equal rates and fares was confirmed, each company was to make through rates and arrangements for the interchange of traffic, all litigation was to cease, and differences were to be resolved by arbitration. The peace treaty or, more prosaically, the heads of agreement, was signed by Lord Chandos for the LNWR, Edmund Denison for the Great Northern, and Samuel Lees and George Gamble for the MS&L. The last-named company resumed its own invoicing and booking office work at London Road on 1st December, and participated with the North Western in the promotion of a Bill for the partition and future management of the station, the Royal Assent for which was secured in the following year, on 21st July 1859.

One outcome of the settlement, which came into operation on 1st January 1859, was that passenger fare levels by both routes were set at some 10% below those in force when the conflict began. Another was a Bill, subsequently withdrawn, which the MS&L promoted for the Session of 1859 to grant it 'permissive powers' to sell or lease its line to the Great Northern, LNWR, Midland, L&Y or East Lancashire systems or to any one or more of them. Again, the restoration of peace had the effect of loosening the ties of the St Helens and Warrington & Stockport Railways with the MS&L and rendering them more vulnerable to North Western expansion. Both lines had been in close relationship with the MS&L which, indeed, operated the W&S as an

¹ The purposes of the Railway Companies' Association were fully described in *Bradshaw's Shareholders' Guide, Railway Manual and Directory* of 1859. An account of the early efforts to form such a body and the subsequent history of the RCA may be found in the *Universal Directory of Railway Officials and Railway Year Book* 1947–48.

extension of the MSJ&A. At the end of 1857, when war raged with the North Western, the leasing of the W&S by the St Helens and MS&L became a distinct possibility. At the same time the St Helens assented to full running powers for the MS&L and Great Northern between Warrington and Garston, and backed the construction of the Garston & Liverpool Railway, for which Watkin had been instructed to make a rough survey in May 1857. On 20th January 1858 the MS&L informed its proprietors of its intention to lease the W&S and extend it to Stockport, and to promote the Garston & Liverpool Railway, the latter being estimated to cost £140,000, in concert with the St Helens and Great Northern. This was followed by the window-dressing exercise, instigated by Watkin, of sending Old Manchester round from the Humber to the Mersey to ply between Garston and Liverpool.

In the event, the G&L Bill was thrown out on the grounds that the capital for its construction had not actually been raised; the W&S proposals got through the House of Commons but were defeated in the House of Lords. By November 1858 the allied companies had agreed upon an improved route for the G&L, the cost of which, now amounting to £,450,000, was to be shared in the proportions of one-fifth by the St Helens and two-fifths each by the MS&L and Great Northern. But with the ending of the railway war in the same month, the project was dropped, for the peace terms contained clauses for the general division of competitive traffic and for the proper passage of competitive and non-competitive traffic to and from Liverpool, for which the LNWR would build a line from Edge Hill to Garston and thence to Brunswick Dock, Liverpool, These safeguards, coupled with the MS&L and Great Northern calling a halt to their attack on local traffic between Manchester and Liverpool as part of the bargain, meant that the outlay on the G&L project could no longer be justified. Within a matter of months the Warrington & Stockport was leased to the St Helens and LNWR and after 31st October 1859 the service the MS&L operated from London Road to Warrington via the MSI&A line was replaced by LNWR trains. In 1860 the Warrington-Garston line of the St Helens was leased to the North Western; by 1864 the remainder of the little system had been engulfed.

Some notable changes in the direction and management of the MS&L had taken place since the autumn of 1857. Because of ill-health Thomas Greig (who was also a Director of the Edinburgh & Glasgow Railway) resigned from the Board in November of that year, and some weeks later Charles Hindley died. The vacancies were not filled until 9th December 1859 when two men concerned in the direction of other railways joined the company. They were Sir Andrew Orr of Glasgow, who held the chair of the Glasgow & South Western besides other Scottish railway directorships, and William Fenton, a banker of Rochdale, who was Chairman of the Oxford, Worcester & Wolverhampton (soon to become the West Midland) and a Director of the Lancashire & Yorkshire. Concurrently, Lord Yarborough had asked to be relieved of the chairmanship. And on 25th January 1860 John Chapman, who had so faithfully served the SA&M and MS&L since 1841 was unanimously, and deservedly, elected to succeed him. Thomas Rawson Barker



John Chapman (1810–1877), from an oil painting presented to the MS&L Board by Sir Edward Watkin and now in the BTC Collection.

became Deputy Chairman, and Lord Yarborough kept a seat on the Board.

The management changes were heralded in January 1859 by the extension of Underdown's existing responsibilities to embrace the new post of Assistant Manager. Underdown already had a difficult enough job as Chief Accountant of a struggling concern such as the MS&L. That he coped successfully is demonstrated by the fact that when he celebrated his promotion by getting married soon afterwards the Board took the hitherto unprecedented step of giving him £150 as a wedding present! And in less than two years, when his services were sought by another railway, his salary was raised by a like sum to keep him in the MS&L fold!

By deciding not to renew the contract of Craig, the Locomotive Superintendent, when it expired in May 1859, money was saved by bringing the control of the locomotive, permanent way and stores work under the aegis of one officer. Recommended by Archibald Sturrock of the Great Northern, whose professional advice had been sought on previous occasions, Charles Reboul Sacré was appointed to the post of Engineer & Superintendent of the Locomotive & Stores Departments and took up his duties on 1st April 1859. Born on 28th September 1831, Sacré was one of thirteen children of John Joseph Berlot de Sacré, a Huguenot refugee. He showed early promise of brilliance as an engineer, and at the age of nineteen had been articled to Sturrock. Serving his time at Boston, he was in charge at Peterborough in his twenty-eighth year, when he began an association with the MS&L which was to last more than a quarter of a century.

Another association which was to be of much longer duration began at this time. In January 1859 an agreement, back-dated to 1st August 1857, was drawn up with Thompson McKay & Company appointing them one of the MS&L carting agents in Manchester. Their remuneration was to be 3s 4d a ton and 3d per consignment for 'smalls' (1 cwt and under). Two months later an arrangement was made with the City of Dublin Steam Packet Company and the Dublin & Liverpool Screw Steam Packet Company, which agreed to carry MS&L and Great Northern traffic on the same terms as those

enjoyed by the LNWR and L&Y.

Three railways, the promotion of one of which was to upset relations between the MS&L and North Western, had their genesis before the end of 1859. They were the Marple, New Mills & Hayfield Junction and two of the progenitors of the Cheshire Lines Committee, the Cheshire Midland and the

Stockport & Woodley Junction.

On 1st March 1858 a 1-mile branch from the main line, near Newton, to Hyde, costing £6,500, had been opened for passenger traffic. Six months later, on 28th June, Parliamentary sanction was given for carrying it forward to Compstall, and James Taylor's tender of £80,000 for its construction was accepted the following November. The Marple, New Mills & Hayfield Junction was a natural extension of this line. It was an MS&L venture, but in order to give it a better chance of success it was promoted as a local enterprise, with power for the MS&L to subscribe capital and to lease and work the line when it had been built. Its Act of Incorporation was secured on

15th May 1860. John Chapman represented the MS&L on the Board and was later joined by Samuel Lees.

Although the Cheshire Midland and the Stockport & Woodley Junction were in fact originally promoted by landowners and others locally interested, there is little doubt that both were inspired by Watkin. In the case of the former, which was to extend from the MSJ&A at Altrincham for some 13 miles to Northwich, he argued that it would tap salt districts to which the MS&L was in some degree dependent upon the LNWR. He also considered that the MS&L should have an interest at least equal to that of the LNWR in such a line. When the Cheshire Midland project came before the MSJ&A Board the North Western members would have nothing to do with it. And in a subsequent letter from Euston Square dissatisfaction was not only expressed with the route selected but the validity of the project was questioned in these words: 'the Directors of this Company put it to the Sheffield Company whether their support of the line would be consistent with those provisions of their contract with us which refer to traffic to and from places west of Manchester'.

Undeterred by an injunction which the LNWR served upon the MS&L members of the MSI&A Board, Lees and Watkin, negotiations were continued with the Cheshire Midland promoters, who were headed by Sir Harry Mainwaring of Knutsford. In an effort to stave off the Bill the North Western approached him in April 1860 and promised full backing for the project 'if the Cheshire Midland disentangled themselves from the MS&L, with whom they could never agree'. Sir Harry pertinently reminded them of their early opposition to the Cheshire Midland and said he was not prepared to let down the MS&L, which had consistently given its support. In May Lord Chandos threatened Sir Harry with the choice of 'having the district accommodated in the best manner . . . or placing the district in the hands of foreign and hostile parties who give no security (beyond the deposit of a small sum of money) . . . '. Shades of Huish! The 'small' sum of money was £30,000 of the authorized capital of £,100,000 with which the Cheshire Midland began its corporate existence when Royal Assent was given to its Act on 14th June 1860. The Board of nine, under the chairmanship of Sir Harry Mainwaring, included Chapman, Fenton, Lees and Watkin.

The birth of the Stockport & Woodley Junction went through without incident. On 25th November 1859 the Finance Committee, presided over by John Chapman, received a deputation headed by the Mayor of Stockport. The MS&L suggested that it should find three-fifths of the capital and local interests the remainder, and that it should work the line and have powers to acquire the local capital, in which case a premium of 5% would be forthcoming on the amount paid up. These terms were accepted with alacrity and on 15th May 1860 the enterprise got its Act of Incorporation. James Marshall, of Brinnington, became Chairman, and MS&L interests were represented by the quartet who served in similar capacity on the Cheshire Midland Board. J. G. Blackburne, already Engineer of the Marple, New Mills & Hayfield

With the launching of these three railways Watkin now unfolded the next phase of his plan. On 18th May 1860 he expressed the view that the time had come for the company to secure a firm hold on the area west of Stockport and reported that he had retained the services of John R. Lingard, a Stockport solicitor, for the purpose. Lingard was soon successful in arousing local interest. On 2nd August, when a public meeting was held in Stockport, £7,500 was subscribed on the spot towards the new line, the Stockport, Timperley & Altrincham Junction, which was to link the S&WJ with the MSJ&A at Altrincham and at Timperley, and with the LNWR (ex-Warrington & Stockport Railway) at Broadheath.

Once again the North Western rose to counter-attack. First William Cawkwell, the General Manager, and William Baker, the Engineer, then James Bancroft, a Director in Manchester, had interviews with Lingard in an attempt to get his support for an LNWR-sponsored scheme for connecting its Heaton Norris station with the Warrington-Stockport line at Timperley. That Lingard thoroughly relished the opportunity given him to prick the balloon of North Western superiority is evident from a private letter he wrote to Watkin on 17th August. He met the suggestion that he should abandon the ST&AI with the words 'I informed him (Bancroft) I could not do so as I was already retained by the manufacturers and merchants of Stockport to promote a line in the same direction, but upon the low level in Stockport. He insinuated (rather than urged) that the Stockport people should join the LNWR as they could give them every facility, the same as if they made their own line, for a line in the same direction. I assured him that the Stockport people had already had so much bad faith of the LNWR that we could put no trust in them whatever in any of their proceedings, and felt sure the only object sought by them was to get possession of the line and then quietly, on some pretence or another, abandon the scheme. . . . I also reminded him of all their double-dealing in reference to the Cheshire Midland line and asked, with that very recent fact before me, how could the Stockport people put faith in anything the LNWR might say. . . . I threw out a hint (to see how far they, the LNWR, were disposed to listen to it) to ascertain if their Company would make us a station on the low level in Stockport as well as the connection with the Heaton Norris station and carry on the line to the Woodley line in Portwood, but he would not listen to anything of the kind, or any connection whatever with the Sheffield Company. I told him nothing short of this would satisfy the wants of Stockport'.

The ST&AJ was destined to become the third component of the Cheshire Lines Committee. Whilst its promotion was under way, the fourth component was beginning to take shape. This was the West Cheshire, in fact simply a prolongation of the Cheshire Midland from Northwich to Helsby, there to effect a junction with the Birkenhead Railway, with a branch from Delamere or thereabouts, to Chester. The MS&L Board agreed to back the extension at its meeting on 14th September.

In the Parliamentary Session of 1860 the LNWR had seen fit to withdraw its Garston & Brunswick Dock Bill. This, it was argued by Watkin and others,

contravened the peace settlement of 1st January 1859, and the Great Northern suggested the resurrection, in the ensuing Session, of the Garston & Liverpool scheme of the late 'fifties. This development, coupled with the westward thrust of the MS&L to the Mersey by means of the ST&AJ, Cheshire Midland and West Cheshire Railways, had the effect of bringing the allies closer together. Another factor was the mounting dissatisfaction of both companies with the handling by the LNWR of their growing traffic to and from Liverpool. Consistent unpunctuality and broken connexional services were followed by a refusal on the part of the North Western to receive at Liverpool parcels traffic which had been collected by an MS&L carting agent for non-competitive destinations.

Correspondence between John Chapman and Edmund Denison culminated in meetings in London on 24th and 25th September 1860 for which Watkin had printed a document, running to ten pages, setting out the line of action he counselled the Board should take. He advocated offering the Great Northern a share in the lines proposed, with a proportionate amount of control. But if this was unfavourably received, then measures should be taken to give notice for and have deposited all the lines in question, getting as much assistance as possible from the local interests, 'but leaving yourselves in a position either to proceed, if you find yourselves, from the satisfactory nature of your half-yearly accounts, the temper of your Shareholders' (Watkin was one of them) 'and the general support of the country, able to do so with success; or, if the circumstances prove untoward, then to postpone the prosecution of such portions of the general scheme as you find yourselves unable, unaided, to carry out'. On the question of running powers, 'and looking to the importance of obtaining for yourselves an independent access to London, I should further advise you as an alternative to propose that, if the Great Northern will find their share of the capital for these extensions, and will grant you full running powers from Retford into London, you will in return grant them running powers from Retford to Stockport and to Manchester'.

He then turned to the matter of bringing about closer and permanent relations with the Great Northern. 'I think', he said, 'that if a complete fusion of interests, in the shape of a positive amalgamation, could have been arranged, it would have been better for the permanent interests of both Companies, though more especially of the Great Northern. To bring about such a fusion I have before expressed my own readiness, both to Mr Chapman and to some leading persons in connexion with the Great Northern, to be no personal obstacle to this important arrangement, which I think too serious to be passed by on personal grounds of any kind, leading any of us to wish to preserve the identity and separate existence of the Manchester, Sheffield & Lincolnshire.' As a possible alternative he suggested that (i) separate management, by separate Boards of the two companies should be preserved, with an exchange of Directors and perhaps the formation of a joint committee in charge of all joint relations, (ii) separate accounts of the gross and net revenues of each railway be kept, each being open to the other,



Watkin in his mid-forties, as seen by the Illustrated London News,

(iii) the total net profit, after defraying the Preference charges of the two companies, which must be a joint liability, be divided in proportions to be agreed by the two Boards, (iv) running powers be exchanged on equality of terms and conditions, (v) the extensions to the Mersey be carried out on joint account, (vi) there should be appointed an Arbitrator of high standing to settle all differences and disputes in carrying out the Agreement and (vii) any additional powers which such a large arrangement would require should be sought from Parliament.

'Should they decline it', Watkin concluded, 'then I should not recommend an early renewal of such a negotiation; but I should urge you to adopt a bolder policy still, and, without haste, or without the undertaking of a responsibility imprudent in proportion to the resources of the time, to endeavour to render yourselves independent (while not refusing the assistance of other Companies), of that help which our past weakness has necessitated ... you ought to have within yourselves a property which can hold its own and be amply remunerative, not as part of a confederacy or an extinguished portion of an amalgamated concern, but as an independent and self-supporting system.'

Watkin had in fact adumbrated the policy which he himself at the helm of the MS&L was destined to follow, despite various vicissitudes, to its final consummation in the construction of the last main line to London.

The Great Northern agreed to involve itself financially with the MS&L in the Stockport, Timperley & Altrincham Junction, West Cheshire and Garston & Liverpool projects, all of which got legislative sanction in 1861 as follows:

			Date of Act	Capital	Authorized MS&L Share	Authorized GN Share
			5	£	£	£
ST&A]			22nd July	150,000	50,000	50,000
WC			11th July	200,000	65,000	65,000
G&L			17th May	250,000	125,000	125,000

Opposition by the LNWR was overcome by a compact under which the MS&L granted running powers, on payment of tolls, from Ardwick to Sheffield and from Garston to Brunswick Dock, Liverpool. In return the MS&L was given running powers between Timperley and Garston and thence to Edge Hill under similar conditions. In the case of the West Cheshire, the LNWR secured running powers from Timperley to Helsby and the best the MS&L could get in compensation were 'facilities' between the latter place and Birkenhead. The Helsby-Birkenhead line was part of the Birkenhead Railway, whose former Chairman, E. G. Salisbury, was a friend of Watkin, a shareholder in the line. To Watkin the Birkenhead meant access for the MS&L to the Mersey and other points south and west. During 1860 he had unavailingly used several artifices to block the threatened control of the little system by the North Western and Great Western. But Salisbury, overridden by his co-Directors, resigned, and the Birkenhead was subsequently vested in the LNWR and GWR on 11th July 1861.

In the meantime the fate of the MS&L itself had once again been hanging in the balance. Since the two meetings with the Great Northern in September 1860 there had been little progress towards the closer alliance desired by both sides. But behind the scenes the General Managers of the two companies, and of the LNWR, had been busy. Euston Hotel, already noteworthy as the venue for momentous railway encounters (as indeed it is today) was to witness another on 20th December 1860, when Watkin, Seymour Clarke and Cawkwell hammered out the basis of an alliance which would in effect bring about the lease of the MS&L by the Great Northern and North Western. Basically it meant that the two lessees would share the responsibility of guaranteeing to the MS&L ordinary stockholders a dividend of $1\frac{1}{2}\%$ in 1861, rising by $\frac{1}{2}\%$ stages to 3% in 1865.

Although supported by the LNWR Board, its Chairman, Lord Chandos, would have none of it. He contended that it was not in the true interests of his shareholders and so informed his opposite number, Edmund Denison, by a private letter. Afflicted by gout in the hand and unable to write, Denison instructed Seymour Clarke to convey the decision to the MS&L Chairman and at the same time say that in the circumstances the Great Northern was not prepared to go ahead alone. He was, nonetheless, in favour of a much closer relationship between the three companies, and at its meeting on 11th January 1861 the MS&L Board set up a Committee of some of its Directors to act with a similar body from the Great Northern in achieving this objective.

Soon afterwards, the MS&L and the South Yorkshire joined forces in the promotion of the Trent, Ancholme & Grimsby Railway. This was in effect an extension of the SY from Keadby, on the west bank of the Trent, to Barnetby on the MS&L, and its purpose was to tap newly discovered ironstone deposits on the estates of Rowland Winn, whose first thoughts had been to build a line of his own. Each of the interested parties, the MS&L, the SY and Rowland Winn were to contribute one-third of the cost and the MS&L was to get running powers to the SY coalfield in return for allowing SY trains to enter Grimsby. The new railway called for a bridge across the Trent at Keadby and the tender of £20,000 of William Fairbairn & Sons for its construction was accepted on 2nd February, although the Act incorporating the TA&G with a capital of £120,000 did not receive the Royal Assent until 22nd July 1861.

In the preceding January, when the MS&L and SY had met in London to put the finishing touches to this joint enterprise, both railways had come to see the advantages of a complete fusion of interests. This was, in fact, no fresh line of thought. The joint leasing of the SY by the MS&L, Midland and Great Northern had been mooted in June 1851 and again, by the MS&L alone, in February 1857, by which time both railways had a substantial holding in the Anglo-French Steamship Company. In the autumn of 1859 a body of SY shareholders, headed by Sir Robert W. Carden, had suggested a lease by the MS&L and Great Northern; but nothing came of

¹ Board, 23rd January 1861.

this save an arrangement by which MS&L trains began to make use of the SY line between Barnsley and Doncaster from 1st December of that year.

From the beginning of the negotiations the SY was left in no doubt as to the intention of the MS&L to acquaint the Great Northern fully with what was contemplated. 'Should the South Yorkshire Directors be ready to accept such terms as the MS&L can agree to, they be further instructed to offer to the Great Northern a moiety of the responsibility on equal terms, or to secure permanently to the Great Northern the rates and arrangements for traffic which they now enjoy, all questions of details or difference between the Companies in reference to this large question being determined, in case of need by arbitration.' So ran the MS&L Finance Committee Minute of 1st February 1861, in directing its deputation to wait upon Edmund Denison. The following day John Chapman and George Gamble called upon Denison at his Doncaster home, for once again the Great Northern Chairman was laid up with gout; indeed, he seemed always to be fated to be in this condition whenever important negotiations were afoot. He was shown the minute of the previous day and given a full résumé of the negotiations. His immediate reaction was that the LNWR should not be made party to any such arrangement at the present time, and he went on to say that his own company could not join in the lease with the MS&L until a legal argument between the Great Northern and the SY concerning rates had been settled. He added that he considered Chapman had a perfect right to negotiate with the SY if he felt it necessary in protection of his shareholders' interest.

Chapman and Gamble, joined by the remainder of the deputation, Barker, Hutton and Lees, together with Watkin, then proceeded to the SY offices in Doncaster. Here they were received by the Chairman, the Rt. Hon. John Parker, the Deputy Chairman, G. S. Lister, and two of the Directors, Sir Robert W. Carden and R. J. Bentley. The party was completed by the SY Secretary, C. H. Thiel, and Solicitor, Robert Baxter. Using as the basis a paper drawn up by Watkin and Baxter, the heads of an agreement were rapidly formulated and signed. By common consent reference to the North Western was omitted, as Denison had suggested, and a clause gave the MS&L liberty to offer the Great Northern a share in the lease. For the year 1861 the MS&L would guarantee the SY ordinary shareholders a dividend of $4\frac{1}{2}\%$ and, thereafter 5%, as well as providing for all charges. In short, the lease was a fait accompli, Parliamentary blessing was to be sought and, meantime, the SY would be managed by a Joint Committee consisting of five Directors from each company and worked by the MS&L.

Immediately afterwards Chapman and Gamble returned to Denison and recounted what had taken place. He expressed his satisfaction, and invited the MS&L Chairman to join the Great Northern Board. This Chapman felt bound to decline for the time being for, as he said, it would be necessary for his company to meet Denison's to ascertain whether the Great Northern was prepared to join the MS&L in its new venture. In the interests of his shareholders he did not therefore wish to place himself in any position of divided responsibility.

The impeccable behaviour of the MS&L towards its ally was rewarded by an extraordinary missive written by Denison, who was still laid up, on 5th February. In it he expressed his astonishment, and that of his colleagues, at the MS&L lease of the SY, and urged that negotiations should be suspended until the two Boards could meet to discuss its merits and demerits! Perhaps the gout had left his hands for a more sensitive part! It is more likely that Denison and his Directors were mortified at not having absorbed the SY when they had the powers to do so in 1852; a small company lodged in their principal coalfield was one thing, but as part of a larger concern it was a different kettle of fish. Grinling recorded in his Great Northern history that Denison called the deal 'a dirty trick'; but he shrewdly observed that Denison must have known only too well that this move of the MS&L considerably strengthened its bargaining power for a more intimate alliance with the Great Northern on equal terms.

Chapman's retort to Denison, couched in most conciliatory language. reminded him that for years it was known that the MS&L had been trying to get into the Silkstone coal district and that as long ago as 1851 the MS&L and its allies had considered leasing the SY on terms not altogether unlike those now accepted. He followed up this by attending a Great Northern Board meeting soon afterwards, when he renewed the offer of a half share in the responsibility. It was a gesture the Great Northern could not very well brush aside. Denison agreed that Seymour Clarke and Watkin should try to work out a modus operandi on equal terms. But this was found impossible of attainment. Instead, after many meetings between the two General Managers, Watkin submitted to his Board, on 12th July, a memorandum drawn up by Seymour Clarke for a complete partnership between the MS&L and Great Northern. It was virtually a proposal for amalgamation. The two systems were to be controlled by one directorate (consisting of members from each company) and worked by one management, and the partners would mutually guarantee the fixed charges of the other. Watkin emphasized that the idea had not been broached by him; it had been propounded by Seymour Clarke because of Great Northern fears of the competitive effects of a Midland-L&Y entente.

This was probably true. At that juncture Watkin could hardly have wished to have an amalgamation of such magnitude on his hands as he was soon to leave for Canada. On 28th June the MS&L Board had minuted its appreciation of his successful efforts in the current Parliamentary Session and, in view of his impaired health, had granted him three months' leave of absence with a gift of £500. Soon afterwards, a committee examining the affairs of the Grand Trunk Railway of Canada advised the appointment of a man of great skill, experience and energy to take over the entire supervision of the company and negotiate with the Government. The London Board of the Grand Trunk accepted this suggestion and chose Watkin as their emissary. 1

¹ The Grand Trunk Railway of Canada by A. W. Currie, published 1958 by University of Toronto Press.

Impaired health or not, it was too attractive an offer for him to resist.

By the end of July the negotiations between Chapman and Denison had foundered on the rock of a mutual guarantee that payment of interest on the preference shares of each company should be met before any dividend was distributed to the open stockholders of either partner. This Denison was not prepared to stomach. But to the Board on 2nd August, the last before he left for Canada, Watkin reported that some of the LNWR Directors whom he had recently met in London still wished for an alliance, with or without the Great Northern, if mutually satisfactory terms could be arranged.

There can be no doubt that the Hercules of the MS&L embarked upon his mission to grapple with the Grand Trunk Hydra in a cheerful mood. Sooner or later the MS&L would be relieved of all its burdens by a 'take-over bid' from the North Western, or the Great Northern, or perhaps both, and on his terms. The possibility that the Board might upset his plans in his absence cannot have occurred to him. But that is what happened and Watkin had only himself to blame. The fact that he chose to leave the country at a time when the MS&L, with the successful Parliamentary Session of 1861 behind it, had reached a vital stage in its development all too clearly revealed a weakness in his character. It was that his ambitious nature and boundless energy would not allow him to devote himself unswervingly and exclusively to one objective for any length of time.

In the autumn of 1861, a few weeks before Watkin's return to England, there took place a chance encounter which upset all his calculations. F. S. Williams, in his book The Midland Railway: Its rise and progress, related how Beale, Hutchinson and Allport of the Midland were out prospecting between Buxton and Manchester for a new through route to the latter city when, in a narrow lane, they unexpectedly came face to face with a dogcart in which Samuel Lees and two MS&L officers were riding. The Midland men made no bones about their purpose and the representatives of the two railways amicably spent the rest of the day together. The outcome of the meeting was a scheme for the Midland to extend to New Mills, and thence make use of MS&L metals into Manchester. Allport interviewed Chapman soon afterwards. He stated that the Midland had resolved to get access from its system to Manchester 'at whatever cost', but being anxious to avoid unnecessary expenditure, was disposed to restrict new construction to an extension from its Buxton line to New Mills if an agreement could be reached with the MS&L for running powers over that company's New Mills-Manchester line. In return, the Midland offered to throw to the MS&L the whole of its traffic between Manchester and places in Lancashire and Cheshire served by the MS&L on the one hand, and stations south of Chesterfield on the other, upon terms to be agreed. Furthermore, it was ready to send at once the whole of its traffic south of Chesterfield via Eckington and Beighton until the new lines were completed. To this Chapman assented, subject only to the condition that the MS&L alliance with the Great Northern must not be prejudiced.

Chapman's action was endorsed by his Board on 11th October and at a



Dinting Vale viaduct as reconstructed with wrought iron girders in place of the timber work in 1860.

[Photo taken by S. W. A. Newton in May 1903

meeting a week later a ten years' compact, thereafter subject to three years' notice, entitled 'Heads of Arrangement between the Manchester Sheffield & Lincolnshire Railway and Midland Railway Companies which are not intended to interfere with existing agreements with other Companies', was signed by Chapman, Barker, Beale and Hutchinson.

With Denison's fickle behaviour over the South Yorkshire deal fresh in his mind, Chapman took care to ensure that no news of the Midland negotiations leaked out until they had been brought to a satisfactory conclusion. When the Great Northern Chairman did hear of them he was enraged at the absence of consultation and immediately (6th November) wrote a strong letter of protest to Chapman. This was followed quickly by the filing of a Bill in Chancery with the object of getting an injunction to restrain the MS&L from following the course to which it was committed. But both this application and an appeal were dismissed. That Chapman had broken the spirit of the 'Fifty Years' Agreement' with the Great Northern cannot be gainsaid, yet he acted realistically. Had he not got the Midland to connect at New Mills it would have been the MS&L, and not the Great Northern, which would have had to face the existence of a new trunk line through its territory.

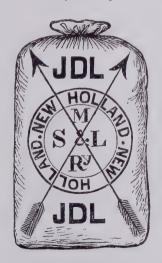
Needless to say, Watkin was also angered at the turn of events. Yet at such

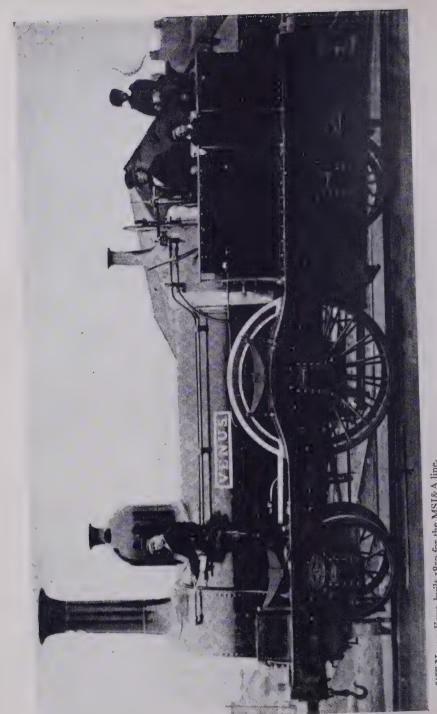
a time he should have stood loyally by the man to whom he owed so much in his railway career. Instead, embroiled as he was in Grand Trunk affairs, he could afford to be independent and display a petulance which smacked unpleasantly of his departed tutor Huish. At the MS&L Finance Committee on 22nd November Chapman reported the correspondence which had taken place between him and Watkin over the Midland agreement 'upon which Mr Watkin's views were not in accordance with the views of the Board, and he had expressed his reluctance to carry the same into effect. Mr Watkin had intimated his willingness to terminate his agreement with the Company at once upon being paid a reasonable amount for so doing, and looking at all the circumstances of the case, and with a view to avoid the embarrassing position in which both the Board and the Company might be placed, the Chairman had arranged with Mr Watkin (subject to the approval of the Directors) that his Agreement should be cancelled on payment to him of £3,400'.

To this the Board gave its approval and, looking at the episode in retrospect, it is amazing that Watkin got away with it as he did. It would certainly have been a different story if the sanction of the shareholders had been needed. It seems evident that Chapman bore no rancour towards his restless, ambitious protégé. When, only a month later, Watkin wrote to him expressing his willingness to continue to represent the MS&L on the Cheshire Midland and Stockport & Woodley Junction Boards if so desired, his offer was

accepted.

Underdown was at once appointed General Manager, with the wise stipulation that he should devote the whole of his time to the company. And the Chairman, Deputy Chairman and Alexander Shand turned themselves into a committee to examine generally the salaries and duties of their officers and the other changes called for by the departure of Watkin.





2-2-2WI No. 73 Venus, built 1850 for the MSJ&A line. [Photo: H. W. Winterton

Locomotives and Rolling Stock, 1847-1863

Soon after the MS&L began to function Peacock, its able Locomotive Superintendent, had suggested that the locomotives should have distinguishing names instead of numbers, 'as being more easily seen and agreeable to the men'. On 10th March 1847 he was asked to submit a list and the allocation of names was then taken in hand, those chosen being from Greek and Roman mythology, with minor exceptions; they are fully listed in Appendix IV. The nameplates were of wrought iron, costing about fig apiece, and although in a few instances they were fixed below the base of the dome, the usual position was centrally on each side of the boiler. The second part of Peacock's suggestion was not adopted so far as is known, and early MS&L practice was to exhibit the locomotive number, in raised cut-out figures, on the front of the chimney. The custom of naming prevailed for little more than twelve years. A few weeks after Sacré took over at Gorton it was decided to remove the nameplates as each engine came in for repairs and to replace them with plates bearing the company's name and the number of the locomotive.1 The design of the plate, which remained unchanged for many years, was oval, having the number enclosed within the legend 'M S & L Ry. Co.' and the year of construction or rebuilding. Locomotive naming did not return until Great Central days.

Up to within a few months of the passing of the MS&L Consolidation Act of 1st August 1849 the locomotives in service or on order fell into two categories. Nos. 1-29, inherited from the SA&M, and Nos. 30-49, together with the second Nos. 2 and 3, were designated ex-SA&M engines; Nos. 50-77 (Nos. 72 and 73 being blanks) were regarded as ex-GG&SI locomotives. Thus the last so-called SA&M locomotive - No. 49 Sphynx - which arrived as late as July 1850, and the last of the GG&SJ engines - No. 77 Phoenix delivered in November of the previous year, were both preceded in June 1849 by No. 79 Actaeon, which was the first truly MS&L engine. Actaeon enjoyed remarkable longevity, being rebuilt (no doubt very considerably) in 1866, renumbered 150 (the second) in 1901 and cut up at the end of 1902, having worked under all the Locomotive Superintendents of the MS&L and

Great Central!

The original Nos. 2 and 3, which had always been troublesome, were sold on 23rd September 1847 to George C. Pauling, contractor for the second

¹ Locomotive and Stores Committee, 13th May 1859.

Woodhead tunnel, for £2,885. As part of the agreement eventually reached to settle the dispute which arose between Pauling and the MS&L in 1852, the two engines came back into the legal possession of the company. They were, however, not returned to stock; one was sold in July 1855 and the other, which was destined for the Gefle-Dala Railway of Sweden (which named her *Norden*), in November of the same year. Each realised £750.

During 1847 further powerful Atlas class o-6-os came on the scene, Hercules, Hector and Jupiter. They were followed by a single named Jenny Sharp and a couple of Cramptons, Nos. 35 Pegasus and 36 Phlegon, the two latter having been bought, with their tenders, from Tulk & Ley on Jee's recommendation. Costing over £3,000 apiece the Cramptons were the most expensive locomotives so far purchased and their tenders possessed the then high capacity of 1,200 gallons. They were not successful, for Pegasus was recorded as on pilot duties at Gorton in September 1855 and Phlegon, which lost her name to Craig's 0-6-o No. 7 (the second) of 1858, was replaced by another engine of the same class a year later. More useful were the mixed traffic 0-4-2s built by Garforths and Sharps during 1847–1848, which had an average life of over 26 years. They were similar in several respects and were probably built to the same drawings, Garforths acting as sub-contractors to Sharps. All these early engines had a boiler pressure of 80 lbs per sq. inch, which was raised to 100–120 lbs from 1848 onwards.

Six-coupled locomotives were clearly needed on such a difficult main line as that of the MS&L, and the six long-boiler Sphynx class engines which next appeared were almost identical with the Atlas quartet, save that their coupled wheels were $6\frac{1}{2}$ inches greater in diameter. The cylinders were placed at 2 feet 3 inches centres, and the valves beneath, which were inclined upwards towards the back, were actuated by direct link motion with valve rods suspended by long swing links from the bottom of the boiler. The boiler barrel consisted of four rings and the firebox was given a transverse partition. The boiler was rigidly secured to the motion plate, and at the rear end was supported on the inside frame by means of an expansion bracket, then in advance of the times. Perhaps the most notable feature was the welding of the axleguards on the frame, which was a single plate from leading to trailing buffer beam, said to have been due to Beyer. Several of these large goods engines were provided with drop grates operated by screw and handwheel from the footplate.

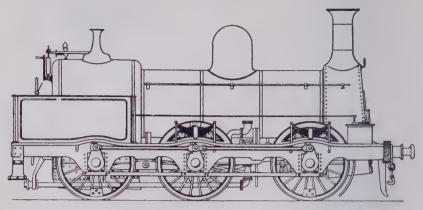
Only comparatively few drawings are known to be in existence of the 26 locomotives assigned to the GG&SJ. The Wilson engines, however, with their fluted, urnlike, Gothic domes and safety valve covers which seemed to call for drapery with ivy, were well known; three of them were singles, Niobe, Tantalus and Jenny Lind, the latter being represented on page 145. No. 60, Nemesis, was probably sub-contracted by Rayne & Burn, as it was not in the tradition of the firm to build outright. The solitary 0-4-2 No. 66 Dido was a standard Sharp mixed traffic design, of which many were built for other railways during the period 1848–1854.

The Fairbairn single Grisi was the precursor of four others delivered to the

MS&L in 1850, Caliban, Sirocco, Tempest and Prospero, all of which, save the last-named, were converted to 2-4-0s in the 'sixties. They were of handsome proportions and D. K. Clark wrote of them 'The design can be accepted as an embodiment of the latest practice of one of the most conspicuous locomotive building firms in England'. The boiler contained 202 tubes of 2 inches diameter and the firebox measured 4 feet 6 inches long by 4 feet 3 inches wide. The outside frame was of sandwich pattern, 3-inch pitch pine with outside 136-inch plates either side, the cast iron wheel guards being riveted on. The inside plates of $\frac{3}{4}$ -inch iron extended from the leading buffer beam to the firebox shell, to which they were rigidly attached. Steam to the valve chests, which were located between the horizontal inside cylinders, was controlled by link motion, with the reversing lever on the right-hand side. The weight of these locomotives in working order was about 23 tons, spread over a wheelbase of 14 feet.

In 1848 Peacock carried out a number of comparative speed trials, with specified loads, over the first 18-odd miles out of Manchester, using some of the Sharp and Wilson singles, notably Jenny Sharp, Ixion and Jenny Lind. D. K. Clark in Railway Machinery (1852) described the results as 'remarkable, and a comparison will show the benefit of a liberal sectional area of flueway and the fallacy of very large boilers and large wheels, as opposed to moderate dimensions and compact proportions'. Peacock also made several blastpipe experiments, chiefly with the Atlas and Sphynx class locomotives, some of which had variable blastpipe tops. In consequence, he adopted the practice of placing the blastpipe top immediately above the upper row of tubes and not too close to the base of the chimney, as had hitherto been customary.

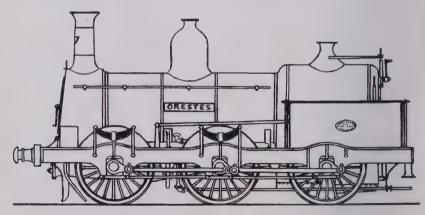
There was a large influx of locomotives during the period August 1849 to the autumn of 1850. It included the first tank engines to be ordered by the MS&L, three 2-2-2WTs, Flora, Juno and Venus designed for the MSJ&A, which throughout MS&L and Great Central days was almost invariably worked by tank engines; the fruits of the largest contract yet placed, nine 2-4-os and three 2-2-2s from R&W Hawthorn; two rather clumsy looking double-framed Wilson goods engines, these having their inside cylinders inclined upwards with the slide bars and piston rods below the leading axle, hence the lifting of the front end involved dismantling the whole of the motion to remove the leading axleboxes; and six Sharp 2-4-os having larger coupled wheels than their GG&SJ predecessors. The Hawthorn locomotives were eventually engaged upon the most important passenger duties, and an official minute of 7th September 1855 records that Nos. 83, 84, 88 and 89 were then rostered to work main line trains between Manchester and New Holland, and No. 90 the Sheffield Huddersfield service. Nos. 88 and 89 have hitherto been regarded as being named Mercury and Orion respectively. A list dated December 1856, reputedly official, of which the late C. F. Dendy Marshall gave the author a copy, shows them as such, as does E. F. Innes' table in the Great Central Railway Journal of January 1908. In October and November 1858, however, when the Finance Committee was considering engines fitted with smoke consuming apparatus, the two were clearly denoted



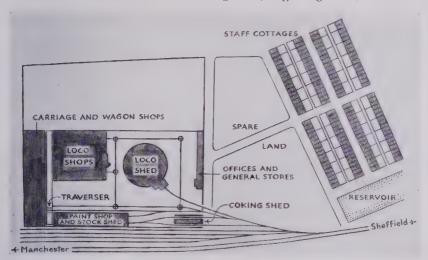
Stephenson o-6-o of 1852.

as 88 Orion and 89 Mercury in three different minutes, and this has been accepted as accurate.

No further additions to the MS&L stud were made until 1852–1854, during which period delivery was taken of twenty powerful o-6-o goods engines, to the general design and specification of Peacock, ten each from Stephensons and Sharps. They were generally alike save that five from the former builder had 4 feet 4 inches instead of 5 feet diameter coupled wheels. All embodied the double frames favoured by Peacock, the outside plate frames being welded solid. In other respects the design followed conventional practice although the firebox was carried centrally over the trailing axle, which passed through a bridge, so dividing the grate into two sections. This



Sharp Stewart o-6-o of 1853.

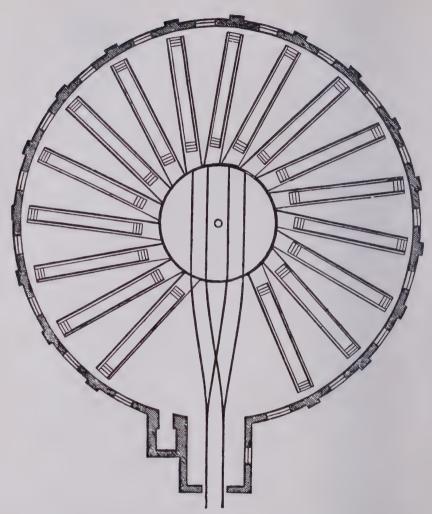


The layout of Gorton Works in 1851.

bridge was the source of continual leakages and necessitated reboilering and rebuilding in the 'sixties.

In 1854 the motive power demands of some railways temporarily exceeded the capacity of builders to meet them. At the time the MS&L was in particularly low water and urgently in need of money for tools, equipment and shed accommodation at Gorton Works. It therefore decided to sell a few of its newest goods engines and on 30th June Watkin was able to report that he had disposed of five for £15,000 to the Ebbw Vale Company, the London, Brighton & South Coast Railway and the Monmouthshire Railway & Canal Company at a profit of £2,500! In September two more were sold advantageously for £6,250 to the Oxford, Worcester & Wolverhampton Railway. All the locomotives concerned are indicated in Appendix IV.

Gorton had been completed as a locomotive and carriage depot 'as far as the means of the Company justified' early in 1848. The layout three years later is shown above, some eleven of the twenty acres purchased being occupied, on the eastern side, by 140 cottages for the company's workpeople and by reservoirs holding a month's consumption of water. Bounding the western side of the area were the carriage and wagon shops, 320 feet by 70 feet, capable of taking 38 carriages on the upper floor and 50 wagons on the ground, the former being raised and lowered by a self-acting worm hoist actuated by stationary engine. Attached to them were the trimming and saddlery room, and at right angles to them, parallelling the main line, was the paint shop, 160 feet by 40 feet, which also contained a shed for reserve rolling stock. A 20 feet by 12 feet traverser was laid alongside the entire eastern side of the carriage and wagon shops. This also served the locomotive



The unique turntable in the roundhouse at Gorton.

workshops, which consisted of four sections. Three of them, namely the fitting and tool shop; smiths' shop with sixteen smiths' fires; and boiler shop with eight smiths' fires and four for heating boiler plates, and a finishing and shearing machine, each measured 120 feet by 60 feet. The fourth, which was the 150 feet long by 60 feet wide erecting shop, contained nine lines of rails, accommodating eighteen locomotives, and two travelling cranes traversing it for its full length, each capable of lifting an engine.

A quite unique feature was to be found in the rotunda of 150 feet internal diameter, which accommodated seventeen tender locomotives in service. This was the 40 feet diameter turntable, carrying two roads instead of the customary one, and through its centre went the cast iron column which. with the surrounding walls, supported the glazed wrought iron roof. The points for the two lines serving the turntable were so set that on entering an engine always took the set of metals on the right of the central column, the base of the latter forming the bed upon which the inner rollers of the turntable revolved. In a paper given to the Institution of Mechanical Engineers in January 1851 Peacock observed that no difficulties had been experienced in the two years it had been in operation. He said that because each line of rails on the turntable was carried by an independent pair of girders, supported by rollers and joined in the centre, no danger through lack of balance had arisen when only one locomotive was being turned, an operation which was accomplished by two or three men in a matter of a minute. He disliked columns in engine sheds and pointed out that by the arrangement he had introduced at Gorton not only was the serving line kept clear but each engine stabled was afforded a total of 1,000 square feet of unobstructed floor

In its early years Gorton was kept too busy with repairs to do much in the way of construction. During the last six months of 1853, for instance, repair jobs for 103 locomotives, 281 carriages, 2,988 wagons and 2 steamboats were carried out there. The first building order mentioned in the company's minutes was for six passenger brake vans on 21st February 1854, and later in the same year eight horse-drawn spring 'lurries' and fifty wagons were taken in hand. Wagon sheets were also being turned out at this time.

Richard Peacock's firmness and fairness in handling men paid him a handsome dividend when he left the MS&L. He was given silver plate, including a magnificent candelabrum, to the total value of £400, which was almost entirely subscribed for by the staff, one-third of them employed at Gorton, where Ross, the Secretary, made the presentation.¹ But it was a habit of the men at Gorton to put their hands in their pockets for worthy causes for every one of them subscribed a penny a week towards a Crimean War Patriotic Fund. And when the literary and educational institution was founded at the works at the beginning of 1856, 700 voluntarily contributed a weekly penny or threehalfpence, according to their wages, towards its funds.²

Shortly after Craig took over at Gorton he suggested that the MS&L should produce its own gas there and so save some 3.5 per 1,000 cubic feet. This idea was adopted and in July 1854 the company undertook to supply gas to the new works of Beyer Peacock 'across the way'. A year later it was found cheaper for Gorton to make its own axle grease and, concurrently with the change, the Locomotive Department took over from the Passenger

¹ Illustrated London News, 6th January 1855. ² Illustrated London News, 17th January 1857.

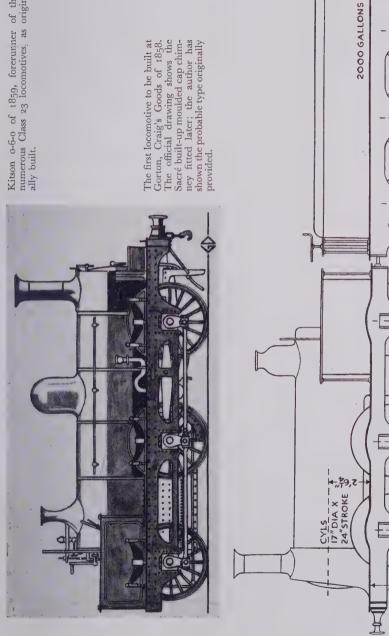
and Goods Departments responsibility for the greasing of carriages and wagons.

By this time the works were sufficiently equipped for locomotive rebuilding to be carried out. Amongst the first engines to be dealt with were ten of the Sharps singles of the 'forties, which were converted to tank engines. The trailing frames were lengthened to accommodate fuel in a rear bunker and 300 gallons of water in a well tank. Thus rejuvenated some returned to their former habitats, hauling Stalybridge and Glossop trains, but others migrated to the MSJ&A and, further afield, to the Sheffield–Eckington and New Holland Grimsby services. Four more old engines, whose numbers do not appear to have been recorded, were similarly converted in the spring of 1857 for transfer to the MSJ&A. This was done to cope with the heavier traffic expected from the impending Art Treasures Exhibition at Old Trafford. For the same purpose Gorton concurrently turned out six first, four second and four third class carriages and two brake vans on account of the MSJ&A for which, earlier in the year, the construction of 100 goods wagons had been taken in hand.

Disregarding these locomotive conversions only one new engine appeared on MS&L metals during the years 1856 and 1857. This was a small 2-2-2WT supplied by George England of Hatcham Ironworks for hauling an equally diminutive saloon carriage from the same makers for inspection trips by the General Manager. The two cost £1,000 and were delivered in May 1856. The engine became No. 123 and in October was referred to in the company's minutes as *Watkin*. It may have been about this time that No. 67 had her name changed from *Ariadne* to *Chapman*.

The decision to build locomotives at Gorton was taken on 3rd April 1857, when the Board agreed to Craig replacing the worn out Nos. 6 and 7 by a couple of goods engines of simple and straightforward design. Having taken the plunge and approved the drawings, the Directors instructed him to visit the works of the LNWR, Midland, L&Y and Great Northern to see whether any further improvements could be embodied before construction was taken in hand! It would appear, however, that Craig was influenced by current practice much nearer home. The new locomotive was a doubleframed o-6-0 which, with its dome mounted centrally upon the raised firebox, was in general appearance very similar to engines being built by Beyer Peacock at that time for the Madras Railway. Gorton's first locomotive, No. 6 (ii) emerged in March 1858 and a sister engine No. 7 (ii) was completed in the following month. They were given the names Archimedes and Phlegon respectively, these having been removed from the Fenton Craven 2-4-0 No. 25 and the Tulk & Ley Crampton No. 36. Two more of the class came out in March 1859 and were the last engines to be built at Gorton during Craig's term of office. All four were fitted with Allan's straight link motion and were reboilered in the late 'sixties, when the dome was placed in the usual position on the middle ring of the boiler barrel.

A few months after the appearance of the first of the 'Craig Goods' engines, as they were known, a beginning was made with locomotive classification. In



4,57

-3'0"

-,0,9

-8'4"-5'0"DIA

3'9"DIA

Kitson 0-6-0 of 1859, forerunner of the numerous Class 23 locomotives, as origin-ally built.

the working timetables for December 1858 some of the locomotives were denoted thus:

First Class . . 103 to 119 inclusive Second , . . 44 to 49 Third . . . 3, 26, 34, 62, 63, 91

Third ,, . . 3, 26, 34, 62, 63, 91 Fourth ,, . . 1, 25, 28, 29, 32, 33, 37 to 41, 50 to

56, 60, 74 to 87, 93 to 98

In the same issue the customary table which was to be found in MS&L working timetables of the 'fifties gave the following haulage capacities, in terms of loaded wagons, of each engine:

No. of engine	No. of wheels coupled	Manchester and Sheffield	Sheffield and Kiveton	Kiveton and Retford	Retford and Gainsborough	Gainsborough and New Holland	New Holland Grimsby and Lincoln	Retford and Sheffield	Sheffield and Eckington
I 3, 26, 30, 34 4, 5 and 8 9 to 24, 27 and 31 25 28 and 29 32 and 33 35 and 36 37 to 43 and 66 6, 7, 44 to 49 50 to 54 and 60 55 and 56	4 6 single single 4 4 4 single 4 6 4	10 20 8 10 11 12 11 10 16 23 16 12	11 23 9 10 12 13 12 11 17 25 17 14	15 28 12 14 16 18 18 16 24 35 24 18	11 23 9 10 12 13 12 11 17 25 17	14 26 10 11 15 15 14 12 21 30 21	14 33 11 12 17 18 18 13 28 34 28 18	11 23 8 10 12 13 13 11 18 25 18	11 26 9 11 13 14 14 12 20 30 20 14
2, 57, 58, 61, 62, 64, 65, 67 to 71, 88 to 90 99 to 102	single	10	11	16	11	12	13	П	П
63 72, 73 and 78 74 to 77, 79 to 87 91 and 92 93 to 98 106, 108, 109,	6 single 4 6 4	18 10 16 20 16	20 10 17 23 17	27 13 24 28 24	20 10 17 23 17	24 11 21 26 21	31 12 28 33 28	20 10 18 23 18	22 11 20 26 21
	6	27 29	32 35	42 45	32 35	38 42	48 50	33 36	40

By the mid-'fifties good steam coal, which could be had at 7s 6d per ton, less than half the price of coke, was coming into favour as a locomotive fuel. Most of the early attempts at burning coal satisfactorily ended in the provision of double grates, one of which burned coke and the other coal; thus the hot gases generated from the coke would mingle with and unite with the incompletely consumed coal gases and, aided by a generous supply of air, effect total combustion. But experiments carried out by the Midland Rail-

way between 1856 and 1860 culminated in the simple firebox with a brick arch and deflecting plate, and with this the problem of the coal-burning firebox was solved.

Craig was interested in these experiments and fitted a two-compartment type firebox to No. 22 Harpie. He satisfied himself that the tubes had a much greater durability with coal than with coke. When using two-thirds coal to one-third coke the tubes were found to be in good working order after 150,000 miles. When using coke alone the tubes were worn out after 100,000 miles, owing to the cutting and abrasive action of the hard particles drawn through them. He reported in favour of coal in October 1856, but because the MS&L was fined £5 by a Sheffield magistrate in September 1857 for excessive smoke emitted by one of its engines - rather appropriately named *Phoenix* - he was compelled to fit smoke consuming apparatus (usually in the form of a steam jet) to the whole of the locomotives in his charge. By the time this had been accomplished, in the latter part of 1858, Craig had carried out further trials to demonstrate conclusively to the Directors the economic advantages of using coal only as a fuel. These trials extended over a period of eight weeks and involved passenger locomotives Nos. 2, 70 and 101, and goods locomotives Nos. 6, 7, 45 and 46. In a straight test between the o-6-os, Nos. 6 and 7, burning coal only, and Nos. 45 and 46, burning a mixture of coal and coke, the fuel consumption of the first pair worked out at 7 lbs per mile less.

Only one large order for passenger rolling stock was placed during the régimes of Peacock and Craig. This was for 12 first, 20 second and 20 third class carriages at £360, £240 and £210 each respectively, six first second class saloons at £286-£360 each, and six luggage vans at £187 each, shared equally in August 1848 by two London firms, Walter Williams of Glasshouse Yard, Goswell Street, and Joseph Wright of Gough Street, Gray's Inn Road. Of the two most interesting vehicles recorded in the company's minutes during that period no drawings can now be traced. The first was a design for a carriage, presumably third class, carrying 125 passengers, which Allport submitted to the Board on 20th November 1850, when authority was given for its construction. The other was a tri-composite twin carriage, seating 16 first, 20 second and 40 third class passengers, of which Craig was asked to take two in hand on 1st Autust 1856 for the Market Rasen line. It is believed that they share, with a dozen third class carriages, the distinction of being the first passenger carrying vehicles to be constructed at Gorton. They were followed by 12 first and first/second class carriages 'in all important particulars similar to those of the Great Northern' which were ordered in July 1857 for the through services to Kings Cross soon after war had broken out with the North Western. This stipulation marked the beginning of varnished teak exteriors for MS&L coaching stock in place of the claret livery which had been handed down from the SA&M; the Great Northern had used varnished teak as a coach livery from its earliest days.

The services of George Harrison, of Canada Works, Birkenhead, were commissioned for the annual report on the condition of the company's locomotives, carriages and wagons in 1858. His observations were generally

favourable, but the extraordinary differences in buffer heights then prevalent amongst MS&L passenger and goods rolling stock seem to have escaped his attention, as they had that of Sturrock and McConnell. This came to light because some of the Directors criticized the unsightly appearance presented by trains being made up of carriages of different shapes and sizes. Although at that time the vast majority of the coaching stock had a body length of 18 feet, and weighed on an average about 43 tons, the buffer heights ranged from 39 to 41 inches, and in some cases showed greater variation. Wheels of two diameters were also in use, 3 feet and 3 feet 6 inches. The situation with the wagon stock had got out of hand, for although the difference in buffer height in the case of 2,376 out of 3,116 wagons varied from 39 to 41 inches, there were 254 of 36 to 38 inches and 486 of 42 to 44 inches. Some of the wagons were dumb buffered, the majority being fitted with india rubber buffers. Craig assured the Board that a standard height of 42 inches would in future be adhered to and he was instructed to equip new freight rolling stock with steel spring buffers, including the 100 new 8-ton coal wagons then under construction to meet the needs of the Duke of Newcastle's colliery at Shireoaks.

Carriage 'warming apparatus', of a type not specified, was installed in the Manchester–New Holland expresses in 1854 at Watkin's suggestion. Earlier in the previous year the Board favoured adopting the Railway Clearing House method of communication between the drivers and guards of passenger trains and Peacock was asked to experiment with this apparatus, which was tried out on Stalybridge branch trains and one of the Manchester–New Holland expresses. It was found to be so inefficient that it was withdrawn. Craig came to the conclusion that a simpler method than a bell fixed on the locomotive, operated by the guard by means of a continuous cord carried through loops on the carriages, could not be devised. It was already working satisfactorily on 14 of the company's trains and on 3rd September 1858 authority was given to equip the remainder of the coaching stock, and to fit bells on all the passenger locomotives. During the same year the passenger carriages were provided with screw couplings at both ends; hitherto one per coach had been the rule.

In September 1855, as a result of successful trials with an East Lancashire train, the MS&L decided to adopt, on Watkin's recommendation, Newall's patent brake. This was a mechanical continuous brake, worked either by the enginemen or the guard, and a rather quaint advertisement extolling its virtues is to be found in *Bradshaws' Shareholders' Guide, Railway Manual & Directory* of 1857. Undoubtedly it represented an advance in the quest for safer railway working, but what was really needed was a brake system not only continuous but completely automatic in action. The Newall brake was fitted to all MS&L stock then in passenger service, including fish vans, for £1,748.

With the advent of Sacré in 1859 a dozen double-framed goods locomotives,

¹ Bradshaw's Shareholders' Guide, Railway Manual and Directory, 1856.

akin to some Great Northern engines which had recently been tried out on the MS&L, were bought from Kitson & Co. They were ordered in May, the first four appearing in the following autumn, and were eventually designated class 23, Craig's method of locomotive classification being dropped. Up to the end of 1863 twenty-eight more class 23 engines were delivered by Kitsons, those arriving from October 1862 onwards having 5 feet instead of 5 feet 3 inches diameter coupled wheels. Two other Kitson locomotives, named Whitmore and Perseverance, came into the possession of the MS&L in 1861 through the bankruptcy of James Taylor, the company's permanent way maintenance contractor, and they too were assigned to class 23.

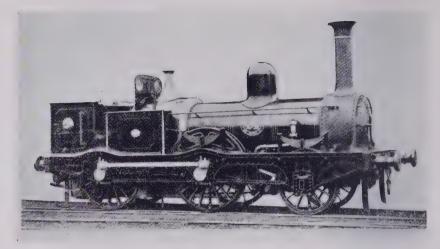
The first four Kitson engines were accompanied by a like number of Fairbairn singles, which had been offered to the MS&L at the bargain price of £1,000 apiece. They were originally intended for the Royal Swedish Railway which, paralysed by the effect of the gigantic frauds it had sustained at the hands of one of its Directors, John Sadleir, M.P., had been unable to accept them. But they were not powerful enough to cope with the gradually growing weight of the trains and all four were replaced after an average life of little more than eleven years. More successful, however, were the three Fairbairn 2-4-os delivered towards the close of 1859. This trio had been built specially for hauling the London expresses run in association with the Great Northern and they were amongst the best turned out by their makers. The first of them, No. 4 (ii) which became No. 67 (iii) when she was rebuilt in 1880, is illustrated on page 265.

Although Sacré had inherited well-equipped workshops at Gorton and, for the first five years of his long régime, had as his lieutenant the capable S. W. Johnson (who, like Allport, was to make his name on the Midland), the bulk of the locomotive work carried out there in the early 'sixties consisted of repairs and rebuilding. Not until 1866 did the annual output of new

locomotives reach double figures.

His first design was a 2-4-0 double-framed well-tank. The boiler of wrought iron had three rings, with the dome placed centrally on the middle one, and was fed by a force pump driven off the crosshead. The safety valves were of the usual spring loaded type, mounted centrally on the firebox and concealed under an elegant brass casing. The chimney was of cast iron with a bell-mouth top, the well-known Sacré built-up moulded cap type not yet having been evolved. The driving axle alone carried four axleboxes, the inner pair being unsprung and acting only as guides. The slide valves were placed between the cylinders and were actuated by link motion. Hand-operated brakes, with wooden blocks, were provided and the rear bunker carried 14 tons of coal with 256 gallons of water beneath.

Two of the new design, Nos. 23 and 24, appeared in 1860. They were allotted to the MSJ&A line, on which they spent most of their lives until superseded by larger side tank engines twenty years later. Eight more which were subsequently built, all being designated class 1, varied in the arrangement of the framing. Nos. 23 and 24 had outside frames of sandwich pattern with 4 inch pitch pine plated each side with $\frac{7}{16}$ inch iron, and the inside



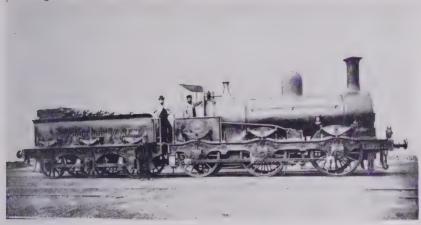
Sacré's first design, the Class 1 2-4-0WT of 1860.

plates of $\frac{1}{2}$ inch iron extended only from the leading buffer beam to the fire-box throat plate, to which they were attached by the usual angle brackets. In the remainder of the class the twin frame plates extended the full length of the engine, the outer plates being $1\frac{1}{4}$ inches and the inner ones 1 inch thick.

The precursors of two further small classes of locomotives · 8 and 13 – appeared during the period under review. The class 8 double-framed 2-4-os, although regarded as new construction, did in fact absorb much of the old



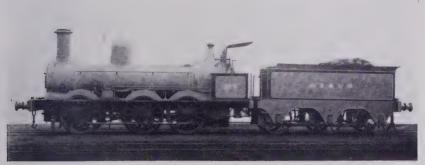
Class 23 Kitson o-6-o No. 25 of 1861, with Sacré boiler mountings.



Stephenson o-6-o No. 107 of 1852 as rebuilt to Class 22.

Sharp singles and four coupled engines, bearing the same numbers, which they replaced. Likewise with the class 13 0-6-0 heavy goods locomotives, which were also double framed, considerable use was made, in most cases, of older parts.

Six classes, 3 and 22 (0-6-0s) and 2, 16, 19 and 20 (2-4-0s) were rebuilds, largely carried out in the early 'sixties, and are included in the summaries at the end of Appendix IV. To the first mentioned, it will be seen, went the rejuvenated Atlas and Sphynx class goods engines, which were given new boilers and closed top domes. When originally built both had cylinders of 18 inches diameter. Soon afterwards these were reduced to 16 inches in the Atlas class and 17 inches in the Sphynx class, not because of the inadequate



Atlas class 0-6-0 No. 3 of 1847 as rebuilt to Class 3.

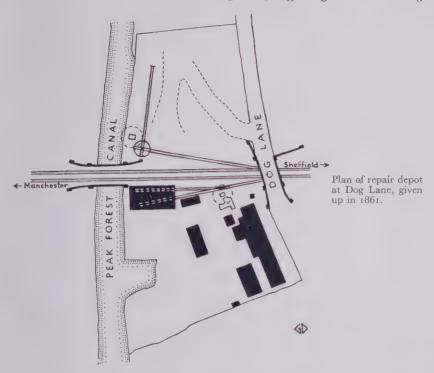
steaming capacity of the boilers, but because the smaller cylinders gave a softer blast, so enabling larger diameter blast pipes to be embodied which, in turn, effected an economy in coke consumption. On rebuilding, both classes had the original cylinder diameter restored. In addition, the wheels of the Sphynx batch (5 feet \frac{1}{2} inch) were exchanged with those of the Stephenson 0-6-os of 1852 which had been built with 4 feet 4 inch coupled wheels. Altogether eight of these Stephenson engines and four of their Sharp Stewart counterparts were rebuilt to class 22, when the opportunity was taken to fit boilers having ordinary fireboxes and thus eradicate the firebox bridge weakness referred to earlier. This improvement lengthened the driving-trailing wheelbase and increased the total wheelbase from 14 feet to 15 feet 6 inches.

Sacré's first goods locomotives to be built at Gorton were Nos. 28 and 29 of late 1862, of which the Kitson class 23 engines were the forerunners. The original frames of this pair were of sandwich type with double bearings only to the driving axle, as in the case of the class 1 tanks. The leading and driving axles were compensated and the crank axle bearings, both inside and outside, were of the concave coned type much favoured by engineers at that time. Both engines had long lives and No. 28 spent her declining years marshalling coaching stock in the carriage sidings at Trafford Park.

During the first 4½ years of Sacré's regime the standard of the coaching stock was gradually raised. A beginning was made in 1859 with the cushioning of 2nd class carriages, and all new main line vehicles built thereafter were in many respects similar to those of the Great Northern which, at this time, could hold their own with those of any other line as regards passenger comfort. In July of the same year Watkin produced a design for a tricomposite carriage to run on goods trains, with the object of giving a better service to wayside stations; one was constructed at Gorton, but no details appear to have survived. The first invalid saloon, a conversion of a former 1st class coach, was put in hand in August 1860 and two years later Gorton built six composite brake vans, the first MS&L vehicles of this type.

The carrying capacity of 1,160 units of the wagon fleet was progressively increased during the period from 4 or 5 tons to 9 or 10 tons, two-thirds of which were hopper coal wagons. In October 1860 the Chairman of the Gloucester Wagon Company, who was also associated with Price & Company, timber importers at Grimsby, suggested the purchase of 200 timber wagons on a hire purchase arrangement spreading payment over 5 to 10 years. This the MS&L accepted, and some three years later a further 600 vehicles, both covered and open, were bought from the same firm under similar conditions.

A small, awkwardly situated repair depot at Dog Lane (now Astley Street), Dukinfield, was given up in the late summer of 1861. Sacré wanted the work done there to be transferred to Gorton and in his report to the Board stated 'The cheapest way of working a railway is unquestionably by judicious centralization', a dictum as true today as it was then. At Gorton, where an unusual task begun in 1861 was the manufacture of a million bricks



from the clay in the adjoining yard, the equipment was steadily improved. A £10,000 rolling mill was installed at the close of 1863, so enabling the MS&L to roll its own rails. In the same year the erection of larger schools for the children of Gorton workpeople was taken in hand at a cost of £900. Tools and workshop equipment for locomotive repairs were installed in the Sheffield running sheds in 1862.

The MS&L ended 1863 with a stud of 143 locomotives and 139 horses; its coaching stock consisted of 64 first, 90 second and 157 third class carriages, together with 2 'break' carriages, 14 'dummies', 19 horse boxes, 11 carriage trucks and 44 luggage vans; its freight rolling stock totalled 4,266 vehicles, supplemented by 67 'break' wagons. The origin of the term 'dummy' is obscure, but it is known that such vehicles were used on passenger services and believed that their purpose was to carry stores. Certainly a van so designated was built in 1875 for stores traffic and another, which appeared seven years later, conveyed laundry. General regulation 31 of the MS&L Rule Book of 1863 directed: 'Passenger trains between Manchester and New Holland, and New Holland and Lincoln, should be so marshalled as to have a dummy or break-van next to the engine, as well as a break-van in the rear....' The regulation also stipulated that trains of more than 10 carriages

must be provided with two brake vans and two guards, and of more than 20 with three brake vans and three guards, the limit being set at 30, exclusive of brake vans!

It had been the practice for SA&M locomotives to carry a green light on the leading buffer beam at night; a red board by day, and an extra red light at night, on the rear of light engines or trains were used to denote that an extra train was following. This practice was continued for many years by the MS&L which, in its Rule Books of 1855 and 1863, also laid down that locomotives must carry a side lamp (showing a white light to the front and a red to the rear) on the offside of the tender, and that all trains were to display two red side lights, as well as a red tail light, after sunset. When the 1863 Rule Book was issued a red and white train staff and train ticket system, the first on the MS&L, controlled the operation of the single line between Barnsley junction at Penistone and Summer Lane station at Barnsley.

At both ends of the system, in the west where the main line climbed through the rugged grandeur of the Pennines to reach its summit 943 feet above sea level at Dunford Bridge, and in the east where it traversed the smiling agricultural countryside of north Lincolnshire, the MS&L had to be ready to grapple with heavy snowfalls during the winter months. Snow ploughs were stationed at Gorton, Hadfield, Sheffield and New Holland. In its General Instructions to the Officers and Servants of January 1863, which dealt largely with station clerical practice and procedure. Direction 108 opened with the words 'When snow is falling, and Passenger Trains are half-an-hour overdue, at Gorton, Sheffield, Retford, or New Holland, the respective Pilot Engines must be despatched in search of the missing Trains'. Engine driving demanded toughness as well as skill at such times, for a scanty weather board afforded the only footplate protection from the elements. But at the best of times too much was expected of the engine crews who, in 1860, unsuccessfully petitioned for a ten-hour day. Two years later they were still working an average of twelve hours a day.

The South Yorkshire Railway

Few of our early railways can have had a more chequered career than the South Yorkshire Railway & River Dun Company, to quote its full designation, which became extinct when it was finally vested in the MS&L by an Act of

16th July 1874.

During its independent operating existence of less than fifteen years from late 1849 to mid-1864 - it escaped absorption by one or more of its big neighbours at least four times. On the penultimate occasion an Act for its union with the Great Northern was in fact passed, but never implemented. Its actual operating experience was extremely limited. It began to function with a few locomotives and no rolling stock, for the Great Northern supplied the wagons to carry the coal traffic which had given it birth, and the Midland provided the locomotives and carriages for the first passenger services; in some further extensions of the passenger services the Great Northern and, later, the MS&L did likewise. When the SY itself ventured into the business with its own passenger train it discovered, on the eve of the opening run, that it lacked a brake van; a wagon had to be hastily improvised to make good the deficiency! Some of its Government fares were worked out to the nearest farthing. And the bad timekeeping of its trains had become so notorious in the early 'fifties that the worthy Bradshaw disgustedly headed his SY timetable with the unusual legend 'No information - Accuracy uncertain'!

These curiosities in practice and equipment, certain of which will be dealt with later, were matched by some of the personalities connected with the line. Together they gave the SY a character all of its own, and, in these materialistic times, an enchantment appealing to the railway enthusiast and

railway historian alike.

In its early days locomotive water supplies at Doncaster were drawn from a pump in the garden of a cobbler near the line. A short siding was laid into the garden and a gate fixed at the entrance, doubtless to satisfy the owner. The SY foolishly gave the key of the gate to the cobbler who, considering it to be in keeping with the authority delegated to him, showed a marked reluctance to allow locomotives to enter his domain, an attitude which sorely taxed the patience of the engine drivers. Of the latter, Joshua Slowen and Robert Bell were, perhaps, the best known. Slowen was present at the cutting of the first sod of the SY; he became a driver in 1852, drove the first and last passenger trains into the old terminal at Keadby and did not retire from the footplate until 1903, when he had attained the age of 73; nine years later, white-headed and bearded, he accompanied some of his SY contemporaries to Marylebone to put his extensive local knowledge at the disposal of the Great Central, then involved in an action against the Balby-with-



South Yorkshire personified. Locomotive Fitzuilliam at Barnsley in January 1853. On the left are two South Yorkshire officials, Blyth and Simpson, and on the footplate is driver Joshua Slowen. Note the enormous headlamps and the feed pump driven by the oversize eccentric on the trailing coupled wheel. An oil bottle and the driver's tea can are apparently being kept warm on the firebox manhole cover

Hexthorpe Urban Council.¹ The other driver, Bell, once experienced a good ducking when his engine became derailed and plunged into the canal along-side the tortuous Thorne line. When he had been hauled out he examined his tobacco box and his only complaint was a laconic 'I wouldna' cared if it hadna' wet me bacca'. Bell was indeed rather eccentric. It was his habit always to give two or three days' prior notice of going on sick leave . . . and he got away with it!

And what other railway would have got away with a missing run-round loop as the SY did? When the Thorne line was completed somebody forgot to provide a loop at the end of it to enable engines to get round their trains, and the omission was realized too late for it to be put right before the arrival of the Government Inspector. But there was time to attach to the inspection train some wagons filled with navvies resplendent in white smocks, as if to celebrate the occasion. On arrival at Thorne the Inspector was hustled into a local inn for refreshment, and whilst he was thus enjoying SY hospitality the navvies lifted the locomotive off the track and pushed the inspection coach and wagons past it. By the time the Inspector emerged the engine was in its proper place at the head of the train and no awkward questions were asked about the absence of a run-round loop!

The little system was originally promoted as the South Yorkshire Coal Railway and its prospectus was issued in the autumn of 1845, when the Railway Mania was getting into its stride. Then, it will be remembered, the promoters successfully sought the support of the SA&M, which nominated its Chairman, John Parker, as a Provisional Director; the Great Northern also backed the project. The line was to run from the Huddersfield & Sheffield Junction, near the road connecting the villages of Shepley and Shelley, via Skelmanthorpe, West Clayton, Cawthorne, the north-eastern outskirts of Barnsley, Ardsley, Wombwell, Wath-on-Dearne and Mexborough, and thence almost due east to the Great Northern main line at Rossington. The four spurs envisaged included one to the former North Midland main line, and another to the Great Northern at Doncaster. The cost was estimated at £1,340,000; William Cubitt and Charles Bartholomew were named as the Engineers and Hugh Parker, junior, as the Secretary, located at Doncaster.

Opposition was encountered from no less than nine competing schemes, chief of which were parallel railways entitled the Manchester, Huddersfield & Great Grimsby Direct and the Manchester, Midland & Grimsby Junction. Another rival project, the Goole, Doncaster, Sheffield & Manchester Junction, had been disposed of by agreeing to an ultimate combination of interest, but not one of them was successful in the Session of 1846. Undismayed, the shareholders of the SYCR and its ally, the GDS&MJ, met soon afterwards at the London Tavern, Bishopsgate, on 23rd May 1846, and decided to put forward a remodelled scheme to Parliament. The idea of building a line from the South Yorkshire coalfield to Doncaster now not only had the support of Edmund Denison and Robert Baxter (who was Solicitor to the

¹ Great Central Railway Journal, April 1912.

Great Northern), but of Earl Fitzwilliam (the 5th Earl), Lord Wharncliffe (the 2nd Baron) and Wentworth Vernon, all large coalowners. And with the object of consolidating under one management all lines within the coalfield the shareholders agreed to take over from the nascent Sheffield, Rotherham, Barnsley, Wakefield, Huddersfield & Goole its contemplated lines south of Barnsley.

The new plan for the railway was completed by the end of October. It was to run from Doncaster to Barnsley, with diverging lines to Rotherham, Elsecar and Penistone and was to be promoted as the South Yorkshire, Doncaster & Goole Railway. A basis for fusion with the River Dun Navigation and the Dearne & Dove Canal Company had been worked out. An approach from the Midland to lease the railway after completion was rebuffed, but it was indicated that the operation of passenger services by Midland locomotives and carriages would be entertained on terms to be agreed.

A public meeting, convened by the Mayor, was held at Doncaster on 4th January 1847, to discuss the railway projects then affecting the town. One speaker advocated the SYD&G scheme because the line would enter 'quietly on the west whereas others would offend by destroying the beauty of the south side of the town'.¹ The pro-SYD&G elements prevailed with a majority of 10 to 1, as a result of which the civic authorities agreed to support it and withdraw their previous dissent.² On the other hand, at a similar public gathering at Rotherham in the following March the claims of a rival Sheffield, Rotherham & Doncaster Railway, planned to traverse the high ground well south of the River Don, were favoured.

On 14th May the SYD&G Bill was declared proved as to the line between Doncaster and Barnsley, with branches to Elsecar and Worsborough, but the Mexborough–Rotherham and Worsborough–Penistone sections were rejected. The Railway Commissioners were to determine the terms on which the SYD&G was to run from Swinton to Rotherham over Midland metals and those on which the Midland was to make use of the SYD&G line into Doncaster. The outcome was the granting of running powers to the Midland, and their denial to the SYD&G, which was grossly unfair to the latter because it was due largely to Midland opposition that the SYD&G Mexborough–Rotherham line failed. However, there was some consolation in the knowledge that the concurrent attempts of the Midland to get its own line into Doncaster and to build another from Cudworth to Barnsley had been thrown out.

The incorporation of the South Yorkshire, Doncaster & Goole Railway became an accomplished fact on 22nd July 1847. The first recorded meeting of the Board (membership of which is shown in Appendix VII) took place at the Tontine Hotel, Sheffield on 18th August, when Dr Robert Dymond and William Gordon Thomson were elected Chairman and Vice-Chairman

¹ Doncaster Gazette, 8th January 1847. ² Railway Times, 9th January 1847.

respectively for the ensuing year. The first officer of the company had already been functioning for some months. This was J. Charles Handfield, who had been appointed Secretary on 18th February 1847; he was paid £150 per annum in addition to the £300 which he received for performing similar duties with the Sheffield, Rotherham, Barnsley, Wakefield, Huddersfield & Goole. The SYD&G offices were transferred from Doncaster to more permanent premises at 33 Norfolk Street, Sheffield, in November. In the previous month the *Doncaster Gazette* reported that 'preliminary operations for proceeding with the formation' were taking place at Balby, Hexthorpe, Warmsworth and Wath.

Charles Bartholomew was the next officer to be appointed. He became Engineer on 1st January 1848 at a salary of f, 1,000, clear of actual expenses, in addition to his salary as Engineer to the River Dun Navigation, for which he engages to devote the whole of his time to the service of the two Companies'. Bartholomew was born at Birstal on 9th April 1806. He and his brother were resourceful and inventive engineers, Charles being chiefly concerned with railways and coal mines (he sank Wombwell Main Colliery in 1853), and William Hammond (who was Engineer to the Aire & Calder Navigation) with canals and docks. Charles Bartholomew was soon to personify the South Yorkshire, just as in later years Edward Watkin was the Manchester, Sheffield & Lincolnshire. He encompassed managerial matters as well as engineering affairs - until William English came on the scene as Traffic Manager - and finished up on the Board. A devout man, Bartholomew published in 1854 a 600-page book entitled The Life and Doctrine of Jesus Christ. He died at Castle Hill House, Ealing, on 12th January 1895, and was buried at nearby Perivale Church.

The first sod of the SYD&G was turned in Warmsworth Field on 1st March 1848, to begin a $\frac{3}{4}$ mile cutting 30–70 feet deep, through solid limestone rock, which contemporary correspondents described as 'of fearful aspect' and 'frightening character'. Another major task was the driving of a 235 yards long bore, originally known as the Foulsyke tunnel, at Conisborough, the contractor for which was Joseph Marriot. The construction of the line was carried out by a number of small contractors and by so doing Bartholomew claimed that he reduced by some 15% to 20% the cost of the whole works. The first order for rails, 3,000 tons at £7 103 per ton, went to John Bradley & Company, John Bagnall & Son and the Chillington Company; W. O. Foster supplied the chairs at £5 25 6d per ton and Wade & Son the sleepers.

Meantime the Board had assumed the pattern it was to retain, with little alteration, for several years. At the first half-yearly meeting of the SYD&G shareholders, which was held at the London Tavern on 25th February, Earl Fitzwilliam was elected Chairman in place of Dymond, who became one of three Vice-Chairmen, the others being Lord Wharncliffe and Thomson. Directors' Committees for Finance, Works, Land and Parliamentary busi-

¹ Doncaster Gazette, 9th November 1849.



Charles Bartholomew (1806–1895).

ness were set up. The meeting was not altogether uneventful. A shareholder, named England, dared to question the wisdom of including so many coalowners on the Board. Where did their interests really lie, he asked, in coal or in the railway? Earl Fitzwilliam was offended by these remarks, picked up his hat and made to leave the room. Edmund Denison took over the chair and appealed to the earl, before he reached the door, to reconsider his attitude, as it would injure the company. This had the desired effect, whereupon England explained that he was not aware that Earl Fitzwilliam was a coalowner. The same critic later objected to the remuneration of the directorate, but after lengthy arguments it was settled at £1,200 for the twelve members.

Later in the year the Bill of the SYD&G for an extension from Barnsley to Penistone was thrown out. But the MS&L promised the use of its Barnsley branch, the Act for which had at last been passed in the same Session. In June 1849 the SYD&G made a transparent attempt to discourage the MS&L from building more than two miles of the branch. It already had powers to construct a line up the Dodworth valley to within a couple of miles of Penistone and it now suggested that it should exercise these so as to form an end-on junction with the MS&L and thus save the latter some expense. It offered running powers to the coalfield, and in return asked to be allowed to operate into Manchester! The offer was not accepted, the MS&L saying it could not come to a decision, wishing in the first place to complete its main line and docks.

On 22nd February 1849 the Board gave a satisfactory report of progress. The Elsecar branch had been started and the Great Northern had consented to the use of a half-a-mile of its line through Doncaster. No plant had been bought as it was expected that one of the neighbouring railways would work the line. In August a seven years' agreement was reached with the Midland, which would operate the passenger service between Doncaster and Swinton with its own engines and carriages. The Great Northern would provide the wagons for the coal traffic, under a twelve month's agreement, leaving their haulage to SYD&G locomotives.

A deviation at the Doncaster end was decided upon after work had been going on for some weeks. Originally it had been intended to carry the line under the turnpike at Balby to connect with the Great Northern at Decoy. Now a route was taken north of that road to Cherry Lane (later Cherry Tree Lane). Here the line would bifurcate into a southward connexion with the Great Northern, using that company's bridge under the road, at Tunnel Bridge (later Bridge junction), the northward connexion being towards the Marsh (later Marshgate).

It had also originally been the intention to get the first section of the SYD&G opened in time for the Doncaster Races of 1849. But excessive rain checked the work of construction. There was a slip at Warmsworth in July, followed by a subsidence in the embankment at Rainbow Bridge (first called Butterbusk Bridge), a few weeks later, and it was not until 20th October that even an experimental trip could be made. On that day a small ballast engine, propelling a Great Northern wagon, fitted with seats, and pulling a

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The first South Yorkshire timetable, published in the Doncaster Gazette, 14th December 1849.

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Seal of the South Yorkshire Railway & River Dun Navigation Company, now in the BTC Collection.

pair of Midland 1st class carriages, set out at 10 a.m. from Doncaster to Swinton. The party aboard the train included Edmund and E. B. Denison, Sir Isaac Morley (a Midland Director), Charles Bartholomew and Robert and Edmund Baxter, and as it was a lovely day most of the leading personages chose to travel in the wagon. A contemporary newspaper account¹ reported that at the west end of Warmsworth cutting the train was stopped to pick up Sir Joseph Copley of Sprotborough Hall and some of his friends. Rainbow Bridge – 'three huge ribs with beautiful spandrels, it contains about 600 tons of metal' – the work of R. Crossland of Bradford, was admired, and the train was met at Swinton by Earl Fitzwilliam and others. The works in hand towards Wath were then inspected, including the construction of a bridge beneath the Midland at Mexborough which was being accomplished without interruption to that company's train services. The party returned to Doncaster by train in 23 minutes and rounded off the day with dinner at the Angel Hotel.

Captain Winn, a Government Inspector, went over the completed works at the end of October and, having expressed his satisfaction with them, the SYD&G announced in the local press that the line would be opened for public traffic on Saturday 10th November. In the *Doncaster Gazette* of the previous day there appeared a Midland Railway advertisement 'respectfully informing' the public that it was providing the passenger train service, as between Doncaster, Swinton and Sheffield. There were to be four weekdays only trains each way from Doncaster at 9.30 a.m., 1.0 p.m., 4.30 p.m. (express) and 7.0 p.m., and from Sheffield (Wicker) at 8.0 a.m., 11.10 a.m., 2.15 p.m. and 5.45 p.m. Not until 14th December did the SYD&G publish its own timetable in the local press, this being reproduced opposite. For

¹ Doncaster Gazette, 26th October 1849.

the privilege of providing the locomotives and carriages for the train service the Midland paid the SY 75% of the gross charges, less Government duty!

At this time Doncaster (Cherry Lane) and Conisborough were the only SYD&G stations, for from Swinton (9 miles from Doncaster) onwards to Sheffield the trains traversed Midland metals. Conisborough station had a separate Midland booking office, and its small, awkwardly arranged wooden buildings included a bare hut as a waiting room; it was later rebuilt on a site 150 yards farther west. The original station at Mexborough (it was replaced by a new station about half-a-mile nearer Doncaster in the 'seventies' first appeared in the company's timetables of January 1850. Hexthorpe and Sprotborough stations were opened on the 1st of the following month. The former was located to the west of the road from Balby Church to the western end of Hexthorpe, and was closed early in 1855. Sprotborough station (erroneously first described as Sprotsborough by Bradshaw) was situated in Warmsworth cutting on the east side of Mill Lane Bridge, the narrow platforms being reached by a steep flight of 66 steps on the south side; it was closed on 1st January 1875. The booking office and waiting room were on the down side and eventually became a platelayers' hut; they were still in use as such when the photograph on page 235 was taken in 1940!

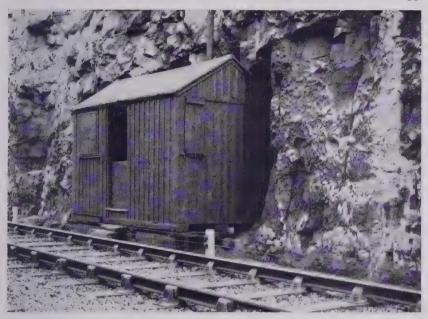
Fares from Doncaster to SYD&G stations were now as follows:

Miles	Station	1st	2nd	3rd	Gov
$I^{\frac{1}{2}}$	Hexthorpe .	9d	6d	3d	$1\frac{1}{4}d$
3	Sprotborough	9d	6d	3 <i>d</i>	3d
54	Conisborough	1/-	9 <i>d</i>	$\bar{6}d$	$5\frac{1}{4}d$
71	Mexborough.	1/4	1/—	9d	7d

The single line Elsecar branch was also brought into use on 1st February and three days later a train of 20 wagons, each containing $6\frac{1}{2}$ tons of coal, was run from Earl Fitzwilliam's colliery to Boston. In June the line had been completed from Elsecar junction to the site of the future Aldam junction, and from the latter point for two miles – again single track – to the Worsborough collieries, together with a further extension to Darley Main. All were opened for mineral traffic only.

A curve known as the Adwick branch, authorised by the SYD&G Act of 22nd July 1847, was built from the main line a mile west of Mexborough station to the west side of the Midland, half a mile north of Swinton junction. It was only half a mile long and it is believed it was brought into use on the same date as the Elsecar branch. The chief purpose of the curve was to facilitate exchange of wagons between the two companies it connected. It is shown in the map on page 101 of Volume II.

Whilst these events were taking place the consolidation of the SYD&G with the River Dun Navigation, which had been planned in 1846, was approaching its final stages. The Navigation had been incorporated on 24th May 1726, when the Masters, Wardens, Searchers, Assistants and Commonalty of the Company of Cutlers in Hallamshire in the County of York were appointed its Undertakers! A year later, on 24th April, it was enacted that the part which extended from Holmstile, Doncaster, to Wilsick House, Barnby Dun, should be transferred to the charge of the Mayor, Alderman



The original booking office and waiting room at Sprotborough station (closed 1st January 1875), photographed by Mr. G. White in 1940, when it was in use as a platelayers' hut.

and Burgesses of the Borough of Doncaster, but a further Act of 21st March 1732 reunited the concern under the name of 'The Company of Proprietors of the Navigation of the River Dun'. By 1850 it was comprised of the following:

		Willes
	Tinsley to Stainforth Junction	$26\frac{1}{4}$
River Dun Navigation	Stainforth Junction to Fishlake Old	
	Ferry (Dutch River)	$2\frac{3}{4}$
Sheffield Canal ¹	Tinsley to Sheffield	4
Keadby Canal	Stainforth to Keadby	123
	Swinton to Barnsley	$9\frac{1}{2}$
Dearne & Dove Canal	₹ Elsecar branch	21
	Worsborough branch	9½ 2¼ 2¼
		$59\frac{3}{4}$

Its fusion with the SYD&G took effect as from 19th April 1850 when the combined companies assumed the title 'South Yorkshire Railway & River Dun Navigation'.

The excursion train made its first appearance in the summer of 1850. This was organized by the Midland and SY and ran from Doncaster to Rowsley and back on Thursday, 4th July. It was advertised in the *Doncaster*

¹ Formerly owned by the MS&L (see page 115).

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7 98	Leave BARNSLEY Wath Arrive at Mexbro		7. 0 7.13 7.25		9 9 30 9 30	H	12.4 12.5 1.	5	4:	1	
	Leave Mexbro'	b'	7.55 8.21		10 3		1 1 2.	10,	4 1	G ₍₎	
98 19 4 55 7	Leave Mexbro "Cenial-ro "Aprotbro "Hexthorpe Arrive at DONCASTE	6.4 6.5 7. 7. 7. 1	8, 7.31 7 7.31 8 7 4:	9.3	5 93 4 94 8 94	7, 121 3 121 7 123	3, 1 9, 1 3 1	12 2 14, 2 21 2		47 6 54 6	21 28 34 39 45
	Leave DONCASTE Lincoln Lincoln Boaton Peterbro' Peterbro' Paterbro' Paterbro		9. 11.1; 12.4; 2.16 5.8;	i :	10. 11.1 12. 1. 2.1	0 5 0	3.	45 55 50 15	6.	13: 16: 7; 0;	

South Yorkshire timetable of July 1851 as published in the Doncaster Gazette.

Gazette as an excursion to Chatsworth, the fares (from Doncaster and stations to Mexborough first 7s, second 5s, and from Swinton first 6s 6d, second 4s 6d) including free admission to Chatsworth House and grounds; lunch in the marquee was offered for a shilling. Some 250 passengers travelled from Doncaster alone, the train consisting of 30 carriages hauled by two locomotives. The success of the venture encouraged the running of another from Doncaster on 26th October in connexion with the Sheffield Winter Fair, leaving at 9.30 a.m. and returning at 5.0 p.m. from Sheffield. Fares were first 3s 6d, second 2s 1d, third 1s 9d. The SY did not embark upon excursions independently of the Midland until August 1852, when special trains were run from Doncaster on the 23rd and 24th for the Barnsley Races, the locomotives and stock being provided by the Great Northern. But by the time of the St Leger meeting in the same year the SY was able to operate race excursions with its own locomotives and hired stock, for it still possessed no carriages; about 2,000 passengers were conveyed on this occasion.

In the autumn of 1850 the Solicitor and Engineer were instructed to get possession of the land needed for carrying the railway forward from 'a junction near Oldham Mill' - soon to be known as Aldam junction on the Worsborough line into Barnsley, there to effect an end-on connexion with the L&Y. A double line was planned and the doubling of the existing stretch from Swinton to Aldam junction was also taken in hand. By June 1851 the Barnsley line was ready for Captain Winn to inspect and on 1st July it was opened for public traffic without formality. The Great Northern provided locomotives and carriages for the passenger service, which consisted of four trains daily each way between Doncaster and Barnsley. There were no Sunday trains, as in the case of the service operated by the Midland between Doncaster and Sheffield, for the SY objected to its staff working on that day of the week. Not before 1853 did any Sunday trains appear on the SY. On 11th February of that year, because of pressure from the Sheffield Town Council, the Board agreed to the Midland running one each way, morning and evening, between Doncaster and Sheffield, these beginning on 7th August.¹

The only intermediate station was at Wath-on-Dearne. In *Bradshaw's Guide* of September 1851, however, Wombwell and Ardsley(renamed Stairfoot for Ardsley in the early 'seventies) made their appearance. Ardsley station (closed at the end of 1856 and reopened 1st April 1858) was devoid of shelter and was once described as 'a miserable affair six feet by seven feet with room for three persons to sit and two to stand by courtesy of the station master'. But no SY station was noted for the liberality of its appointments. After the Keadby line had been built, a Board minute dated 31st December 1859 delicately recorded 'Complaints having been made as to station arrangements at Thorne and Crowle, the Board ordered water closets to be substituted in lieu of the present accommodation'. Even as late as 31st March 1860 a minute was passed to the effect that name boards were to be put up at all stations!

¹ Sheffield & Rotherham Independent, 6th August 1853.

It was on the Barnsley line, in September 1851, that a carriage broke loose at Ardsley and ran back to Wombwell. One of the alarmed passengers, named Walker, jumped out and injured himself, and the SY found itself in the County Court. For its defence it was ingenuously argued that passengers were fully aware that they must not leave carriages in motion. The verdict went to the plaintiff and the SY had to meet damages of £30 – which might fairly be described as a miscarriage of justice.

The summer of 1851 also saw the beginnings of the Aldam junction – Blackburn junction (later Blackburn Valley junction) line via Chapeltown to consummate the system as originally conceived; communication with the pits of Newton & Company (now Newton Chambers & Co Ltd) at Thorncliffe Wood and Chapeltown was being established and the junction with the Midland at Blackburn laid in. A short branch to the Navigation at Doncaster, together with a coal drop, were brought into use on 1st July, but only one further line was completed before the mid-'fifties. This was an extension of the Worsborough branch to Moor End, to serve the Silkstone collieries, which was opened in April 1852. The length of the branch was thus increased to 4\frac{3}{4}\text{miles.} Its doubling was not carried out until 1877 and its connexion with the MS&L Barnsley line at West Silkstone junction took place three years later.

Relations with the Great Northern, rather than the opening of new lines, formed the predominating preoccupation of the SY during this period. The Great Northern held one-quarter of the stock of the company, and at the beginning of 1851 the foundations had been laid for it to take over the management of the SY as a prelude to ultimate amalgamation. A sliding scale formula, drawn up on 26th February, was evolved. This began with the payment of a dividend of 3% to the SY proprietors when less than 200,000 tons of coal were conveyed over the line and rose by $\frac{1}{2}$ % and 100,000 ton stages to 6% and 800,000 tons; once $4\frac{1}{2}$ % had been reached, the dividend was not to drop below that figure. Its adoption was rejected at the SY half-yearly meeting on 14th March, but at a special meeting of the proprietors on 11th April it was accepted, the division being 916 for and 319 against. A few months later the SY received lease proposals from the MS&L and Midland, but they were declined in view of the agreement reached with the Great Northern and its financial stake in the company.

At the Albion Hotel, Cockspur Street, London, the committee dealing with the Great Northern arrangements, chaired by Dymond, resolved on 31st October that there should be a working agreement between the two railways for 21 years, to terminate at the passing of an Act sanctioning the lease and subsequent amalgamation. Meantime, the SY would retain the management of its system, giving the Great Northern unrestricted right of access for working purposes and user, upon payment of such tolls as would realize as nearly as practicable the sliding scale of 26th February. The resolution was accepted by the SY Board and in December there duly appeared in the advertisements of the Parliamentary Notices a Bill to authorize the lease of the line to the Great Northern.

The treaty with the Great Northern was sealed on 26th February 1852.

Although both railways had shareholders who voiced their rooted objection to the merger, particularly one Hadfield, of the SY fold, it was ratified at the half-yearly meetings of both companies at the end of the same month. So the Bill went forward, and at the Committee stage in the House of Commons it was vigorously opposed by the Midland, which did not relish the prospect of the South Yorkshire coalfield falling into the hands of a great rival. Making a strong case for public interest, as well as its own rights, the Midland was successful in persuading the Committee to demand the inclusion of a clause providing for the free interchange of traffic at Swinton junction, on the basis of a mileage rate. Thus the Great Northern was prevented from gaining monopoly control of traffic from the coalfield. Nevertheless, it decided to go ahead, and under the *aegis* of Robert Baxter, who was Solicitor to the SY and the Great Northern, the Bill went to the House of Lords and secured the Royal Assent on 21st June.

Soon afterwards a proposal went from the SY to the Great Northern for an early meeting to proceed with the amalgamation. It was accompanied by a request that in the ensuing discussions the Great Northern must waive the right of voting which it possessed by its ownership of SY shares. This was unacceptable to Edmund Denison, and despite 'the necessity and propriety' which the SY attached to its proviso, he refused to move further until it was withdrawn. The rift in the lute was widened on 16th July, when directors of the two companies at last got together. The SY then produced its coal carryings for the six months ended 30th June, totalling 193,766 tons. The amount was reckoned on the basis of 20 cwts to the ton, but the Great Northern would not concede more than 184,038 tons, calculated at 21 cwts to the ton, the rate at which collieries sold their coal.

At this juncture rigor mortis set in on the negotiations. To the acute discomfiture of Baxter, who had for long striven to bring the SY within the Great Northern net, Denison and his co-directors now began to doubt the wisdom of the merger. Denison, never fully convinced of the potentialities of South Yorkshire coal in the London market, came to the conclusion that the victory of the Midland had seriously jeopardized Great Northern prospects. In his view the Act was permissive, not compulsory, and in the end it was this view that prevailed. Grinling, the Great Northern historian, has recorded that when Denison and his colleagues met on 25th August, a resolution in favour of a policy of masterly inactivity as regards the amalgamation was unanimously adopted, 'notwithstanding some very outspoken protests from the solicitor'. A half-yearly meeting of the SY proprietors took place a few days later, and upon it Herapath's Journal commented, 'It appeared the Great Northern parties were not quite so well satisfied with the marriage settlement prepared in February last as they were about Valentine's Day, and it was intimated at the meeting that unless the governors of the fascinating railway and canal Yorkshire and Dun "came down handsomely" and make liberal allowances the Northern gentlemen will leave them in the lurch, or to the chance of other suitors . . . it is questionable whether any action can lie against the young gentlemen for breach of promise.'

Baxter's position soon became untenable and in November 1852, when the Great Northern Directors confirmed their decision of the previous August, his firm gave up its position as solicitors to the company. Early in 1853 he was battling with his former employers. The SY instructed him to lodge a petition in Chancery against the Great Northern to restrain it from paying any future dividend until the claims of the SY had been met. It was dismissed by Vice-Chancellor Stuart, so Baxter made a similar appeal to the Lords Justices, and this met a similar fate on 17th February. Thereupon he informed the legal advisers of the Great Northern that if the amount owing to the SY under the disputed agreement was not paid by the following Tuesday – 22nd February – its coal trains would be stopped. And stopped they were, not only on the Tuesday, but on Wednesday and during part of Thursday as well, SY officials preventing them from moving beyond Hexthorpe. In the end the Great Northern paid 13 6d per ton, without prejudice, and the coal trains began running again.

In these circumstances, it is not surprising that Denison relinquished his seat on the SY Board on 25th February, the Hon. F. H. F. Berkeley taking his place. Meantime, the suit with the Great Northern as to the validity of the amalgamation compact went through its timewasting and expensive legal processes for more than eighteen months until July 1854, when the litigation came to an end. All agreements between the two companies were to become void at the close of that year, up to which date the Great Northern would settle the SY accounts on the terms of the disputed agreement. This meant that the SY would have no future claim for a guaranteed dividend, and must be content with tolls based on the mileage traffic was actually carried. It also meant that it would have to provide the equipment for work-

ing its own traffic.

Whilst these legal arguments were being ventilated the Great Northern decided that the Doncaster-Barnsley service was unremunerative and on 1st August 1853 cut the trains to one each way. To maintain the advertised service the SY had to provide the motive power from its then meagre stud of nine locomotives and hire carriages from the Midland. Early in 1854 Bartholomew was authorized to order two locomotives and six 'mixed carriages', which was 'SY-ese' for composites! It was then envisaged that the system would not eventually exceed a length of 38 miles, of which colliery branches and the yard at Doncaster would account for more than half. The single track Aldam junction-Blackburn junction line of 11¼ miles had been completed in December 1853 but could not be brought into use because of inconclusive negotiations with the Midland over the use of its Wicker terminal station in Sheffield. This difficulty was resolved later in the year and on Monday 4th September 1854 it was opened for passenger and coal traffic.

The new line was diverted somewhat from the route originally authorized (and upon which some work was carried out) at the northern end, so as to serve the collieries at Blacker and Hoyland and, it was claimed, to save money. It enabled a new through service to be put on between Barnsley and

Sheffield, although this involved reversal at Wombwell, for the junction at Aldam faced the latter place. In the October 1854 issue Bradshaw's Guide showed a service of three trains each way on weekdays only; the contemporary Doncaster-Barnsley service, also operated by the SY, consisted of four trains daily each way; but the Doncaster-Sheffield service, still worked by the Midland, enjoyed four up and five down trains on weekdays and two each way on Sundays.

Smithley for Darley Main & Worsborough (known as Darkcliffe by the end of 1855 and renamed Dovecliffe early in 1860), Westwood and Chapeltown & Thorncliffe were the original intermediate stations. For a period between July and September 1856 there was a station called High Royds, between Smithley and Westwood. The precise opening dates of the other intermediate stations are not known, but the issues of Bradshaw's Guide in which they made their first appearance are given below:

> Ecclesfield November 1854 Birdwell & Hoyland February 1855 Grange Lane June 1855

Ecclesfield station was situated in Lorcher Lane and remained for only two years, making its last appearance in Bradshaw in October 1856. Birdwell & Hoyland was sited half a mile west of the location originally intended.² The station at Meadow Hall was a post-SY addition.

All trains and engines had to be accompanied by 'travelling porters' -'pilotmen' in modern parlance - No. 1 being responsible for the section between Aldam junction and Westwood and No. 2 for the remainder between Westwood and Sheffield, to which reference was actually made in SY timetable press advertisements! A similar practice was in force on the Worsborough and Elsecar single track branches, each of which had a travelling porter.3

Further extensions were debated in 1854 and the Parliamentary plans for the ensuing year included a line from Doncaster to Crowle and from Crowle to join the MS&L at Bole, outside Gainsborough. The latter was abandoned, but the initial section of the Crowle single line, from Doncaster to Thorne, was first brought into use on 11th December 1855 when a train of ten wagons arrived at Thorne (Waterside) with coal for shipment to Hull.⁴ The operation of passenger traffic, by one engine in steam, began on 1st July 1856 with two trains daily each way; intermediate stations were located at Barnby Dun, Bramwith and Stainforth.

Constructed without an authorizing Act and laid alongside the canal by contractor Blyth of Conisborough, the Thorne line possessed such sharp curves that several speed restrictions had to be imposed. Its tortuous character was not only destined to contribute to driver Bell's immersion, but to evoke from a visiting North Eastern Railway Director the witticism 'The South

Doncaster Gazette, 11th July and 3rd October 1856.
 Railways, Vol. XII, page 191.
 SY Rules, Regulations and Bye-laws of 1864 printed by Bradshaw & Blacklock of Manchester.

⁴ Doncaster Gazette, 14th December 1855.



The original buildings at Westwood station; the old single-line platform can just be seen below the palings.

[Photo taken in 1940 by Mr. G. White

Yorkshire company must believe that one good turn deserves another?! At Thorne canal packets gave a connexion with Keadby, which was served by the Gainsborough–Hull packets. In August 1856 Bartholomew was authorized to purchase an iron screw steamer for £380 so that the Thorne Keadby service could be provided by the SY itself; this would have been a secondhand vessel and it is believed it was named *British Hero*. The SY also had a fleet of coal barges, consisting of some 16 units.

On 1st June 1855 an agreement for three years was reached with the Great Northern for the movement of coal from the SY system. Once again a sliding scale was adopted. For 300,000 tons per annum the SY would get 1s 6d per ton, decreasing by $\frac{1}{2}d$ per ton for every additional 50,000 tons to 1s 3d per ton for 550,000 tons or more. A few months later the company went into the coal business in London. Eight arches, capable of holding up to 2,000 tons, were rented from the LNWR at Camden Town. The associated coal drops and weighing machines were completed in September, and Green & Jones were appointed cartage agents for delivery within four miles of the depot; they provided the carmen and the horses, and the SY the fleet of six road vehicles,

¹ Railway and Other Steamers by Duckworth and Langmuir shows British Hero (page 242) as a wood paddle steamer built at North Shields in 1848 and possessing a length of 84.6 feet, beam 17.8 feet, depth 9.2 feet, a gross tonnage of 75 and n.h.p. of 45.

ranging from 2-4 tons capacity, together with sacks, shovels and wheelbarrows. Filling, loading and weighing were contracted for at 6d per ton, and Green & Jones got 2s 5d per ton for their labours. The depot was staffed by an order clerk and wharf foreman, and a coal office which was opened at 72 King William Street had a clerical staff of six in the charge of the London Coal Manager.

Camden Town began trading on 24th September, offering Barnsley house coal to residents within a radius of four miles at 20s od per ton, or 17s od if bought at the depot. It remained in business until early in 1858, when the LNWR wanted their arches back again; the office in King William Street was given up at the same time. The SY had by now developed a heavy coal traffic with the South Eastern, Eastern Counties and London & South Western Railways and in July 1856 had installed a coal office on LNWR land at Kensington. In January of the same year a coal sales organization was set up in Birmingham, in the hands of John Mintorn, who had resigned from the directorate.

The post of London Coal Director had first been offered to W. G. Thomson, another member of the Board, who declined it. On 16th February 1856 the company's Secretary, J. Charles Handfield, was appointed London Coal Manager at a salary of 1d per ton on all coal sold in the Metropolis, with a minimum salary of £400. He was succeeded as Secretary by C. H. Thiel, who was paid £300 per annum. On 3rd March 1857 Edward Wilson of the MS&L was appointed the company's first and last Mineral Traffic Manager. Soon afterwards the premises at 33 Norfolk Street, Sheffield, were vacated, it having been decided to concentrate the SY offices at Rotherham, where Bartholomew was located. The change was not, however, altogether satisfactory, and new offices were taken at 22 Hallgate, Doncaster, on a temporary basis, in October 1858 for a rental of £60 per annum; in the event, Doncaster remained the headquarters of the company until it ended its separate corporate existence in 1874.

These changes were accompanied by others amongst those responsible for the direction of SY affairs. Lord Wharncliffe, one of the Vice-Chairmen, had died in October 1855, but his vacancy was not filled. Earl Fitzwilliam's death occurred two years later and was followed within two months by the resignation of Samuel Roberts. Dr Robert Dymond, who had frequently chaired past Board meetings and who, in consequence, carried much of the responsibility for the company's policy, succeeded Earl Fitzwilliam and thus became Chairman for the second time. Two more Directors, W. G. Thomson and Samuel Bailey, resigned in July 1858, their places being taken by George Hussey Packe, a Director of the Great Northern, and the Rt. Hon. John Parker, who had been on the Provisional Board prior to the incorporation of the company. The new set-up was short lived. Parker succeeded Dymond on 4th December 1858 because of the latter's sudden death at Bolton Hall, and Samuel Roberts was invited to return. John Walbancke Childers of Cantley Hall, and Dr Edward Scholfield were also offered seats. Scholfield was elected on 28th December and Roberts and Childers on 15th January of the following year, Childers simultaneously being elected Chairman because of illness which had temporarily incapacitated Parker.

Snook-cocking by shareholders led to the establishment of a 'Committee of Consultation and Enquiry' at the company's half-yearly meeting on 26th February 1858. Its seven members included the Lord Mayor of London and S. H. Staniforth (who later became a Director). One outcome of its recommendations was the appointment of William English from the Great Western – as Traffic Manager as from 31st July at £450 a year. Bartholomew's responsibilities were thenceforth confined to railway and canal engineering matters, because of which his salary was reduced to £500. Wilson, the Mineral Traffic Manager, became redundant but was given a lesser post at Hull, where he supervised the working of the boats bringing in coal from the South Yorkshire field.

The penultimate extension of the SY to be completed before the lease to the MS&L became a fait accompli was taken in hand in 1858. This was the continuation of the Thorne line to Keadby, a distance of ten miles and, as in the case of the Thorne line, it was single track and constructed alongside the company's Keadby Canal without an authorizing Act. It was estimated to cost £30,000 and work was begun at Thorne on 2nd December, Thomas Waring being the contractor. Bartholomew reported its completion on 11th June 1859, and after improvements arising from a tour by the Board had been completed and the Government Inspector had given his assent, the line was opened in September. If the forecast given in the Directors' Report to the half-yearly meeting held on 27th August was fulfilled, the precise date was 10th September.

Thorne Lock, one of the two original terminals of the Thorne line, was replaced by a new station at the end of Orchard Street, a quarter of a mile nearer Keadby. Crowle was the only intermediate station when the line was opened, but others at Maud's Bridge, Medge Hall and Godnow Bridge were brought into use soon afterwards. The initial service consisted of three mixed trains (passenger and goods) daily each way. An extra train each way on Saturdays appeared in *Bradshaw's Guide* of October, in which month train staff and ticket working was introduced, a red staff being used for the Doncaster–Thorne section and a blue for the Thorne Keadby section.

Shortly before the Keadby line was opened Baxter and Bartholomew tendered their resignations. At the half-yearly meeting on 27th August both had been under fire from Sir Robert Carden, who complained that the company 'was in the hands of the two B's'. Bartholomew's connexions with collieries were also criticized. It is not surprising that the resignation of Baxter was not accepted, for his knowledge of the SY's important neighbour, the Great Northern, was invaluable and irreplaceable. Likewise, Bartholomew's knowledge of the SY was unique, and in his restrained letter of resignation he reminded the Board of his 26 years in the service of the company and its predecessors. He also pointed out that his principal outside interest, Wombwell Main Colliery, gave the SY a rail revenue of £10,000 a year. Nevertheless, he expressed a wish to go at once or, if the Board preferred, on 1st



The former workshops of the South Yorkshire at Mexborough.

Photo taken in 1940 by Mr. G. White

October next. Bartholomew's concluding remarks must have severely jolted the Directors, unless indeed they had prompted him to pen them, which is by no means unlikely. 'The Act of Incorporation of this Company confirmed the original agreement by which a compensation of £3,000 will be payable to me, although I had no desire to have availed myself of it, expecting to spend the remainder of my professional life in the Company's service, after having for more than a quarter of a century been engrossed in its affairs and consequently never having formed any other connections to which I might turn.'

The Board decided to adopt delaying tactics. Bartholomew's resignation was accepted on condition that it did not become effective until the extension of the line via Chapeltown into Sheffield—already planned and about to be started—was accomplished. Sir Robert Carden was at this time campaigning for a lease of the SY to the MS&L and Great Northern. This particular scheme came to nought, but his concurrent efforts to bring about changes in the SY directorate were successful; amongst his supporters were Samuel Plimsoll, who was so well known in another connexion. On 24th February 1860 the Hon. F. H. F. Berkeley and William Carr resigned and R. J. Bentley, S. H. Staniforth, George S. Lister and Sir Robert himself were elected Directors. When Sir Robert resigned nearly four years later, on 12th December—1863, the Sheffield extension—was approaching completion. Bartholomew was at hand and ready to accept the seat vacated by his old adversary which the SY promptly offered him!

Early in 1860 the SY advertised for tenders for the construction of the Sheffield extension, which was to run from a point near Meadow Hall, north of Blackburn junction, for some four miles into Sheffield, where the terminal then envisaged was the coal wharf on the Sheffield Canal, owned by the company. With the opening of lease negotiations with the MS&L in January 1861, however, the plans for the terminal in Sheffield were altered, and in July of that year the two railways agreed upon a connexion east of Sheffield, which became known as Woodburn junction, by means of which SY trains could enter Victoria station. Bartholomew had estimated that the cost of the extension would be $\mathcal{L}40,000$ all told. A contract of $\mathcal{L}9,862$ for the earthworks and bridges was placed with Charles & Benjamin Verity on 31st March 1860. On the same day orders were given to Forman for 500 tons of rails at $\mathcal{L}6$ 10s per ton, to S. Beale & Company for 180 tons of chairs at $\mathcal{L}4$ 17s 6d per ton, and to Wade & Son for a supply of $9\frac{1}{2}$ inches by $4\frac{3}{4}$ inches sleepers at 2s $8\frac{1}{4}d$ each.

Before 1860 had closed the SY was getting involved in further projects to extend its spheres of influence. One was for the construction of a line across the Trent at Keadby to reach newly found ironstone deposits in the vicinity of Scunthorpe and to extend to the MS&L at Barnetby. This was promoted as the Trent, Ancholme & Grimsby Railway and has been dealt with in an earlier chapter. Another was the Barnsley Coal Railway, later known as the 'Barnsley Stump', which was to run from Stairfoot, near Ardsley, to Notton, near Royston. It was incorporated on 22nd July 1861 and the SY, which subscribed one-quarter of its capital of £40,000, got sanction to purchase it by an Act of 13th July 1863. The third was a Hull & Doncaster Railway. This was eventually promoted by the North Eastern to link Staddlethorpe on the Hull Selby line with Thorne. It was authorized on 28th July 1863 and the SY, which was given running powers, agreed to straighten its line between Thorne and Doncaster.

None of these lines, however, nor the West Riding & Grimsby Railway, to which reference is made in the next chapter, were in operation before the lease of the SY by the MS&L was legalized.

By January 1861 the SY had sold, for a loss of £5,000, its £25,000 holding in the Anglo-French Steamship Company which, it will be remembered, it had helped to promote in 1855 with the MS&L, and had entered into lease negotiations with that company. These came in for sharp criticism by Denison at the half-yearly meeting at the Guildhall, Doncaster, on 27th February, but he could not match the verbal broadsides of J. W. Childers and Sir Robert Carden. When he demanded a poll the lease proposals were carried by 243 to 17.

Less than six months later a 21 years' working agreement was sealed with the MS&L which would remain in force until the Transfer Act was secured. In August 1862 the MS&L suggested that the two railways should, as far as possible, be operated as one, so as to reduce working expenses. In consequence, Sacré took over SY locomotive, permanent way and canal engineering work for an additional salary of £300 a year; his appointment



The original terminus at Keadby.

[Photo: W. H. Whitworth



The original locomotive shed at Keadby.

[Photo: W. H. Whitworth

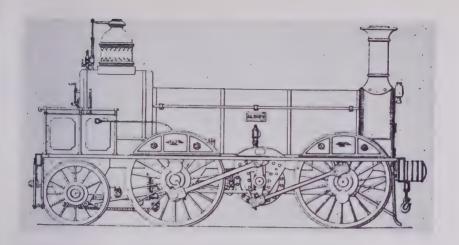
became effective on 29th November 1862, Bartholomew continuing to be responsible for new works. English, the SY Traffic Manager, was to confer with Underdown, the MS&L General Manager, on both rail and canal traffic affairs. And there was to be full consultation on rates matters. Although the Secretary's and Accountant's Departments were to remain separated, the two railways were thenceforward, to most outward intents and purposes, one system.

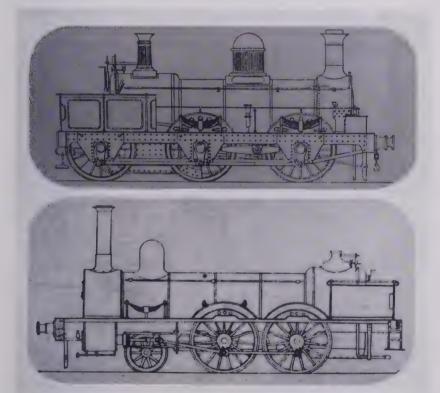
Some noteworthy changes in the direction and management of the railway which took place before the Transfer Act was finally passed on 23rd June 1864 deserve mention. The Rt. Hon. John Parker, who had succeeded J. W. Childers towards the end of 1860, thus rivalling Dymond's feat of two periods of office, resigned from the chairmanship in August 1863 owing to indifferent health. He was succeeded by the Hon. William Eden, son of Lord Auckland. The first MS&L Directors to join the Board were Barker, Gamble, Hutton and Lees, who were elected in March 1861. English resigned in December 1863 to join the Garston & Liverpool Railway. And Thiel took his place as caretaker Manager for the six months which had yet to elapse, after which he continued as Secretary.

A single track branch of two miles from near Mexborough to the potteries at Kilnhurst was the last SY line to be built before the MS&L lease was legalized; Bartholomew reported its completion in August 1863, together with a spur to Wilson's steel works. It eventually became a part of the Mexborough-Tinsley line, which was brought into use throughout by the MS&L in 1871. On 12th December 1863 a minute recorded that such permanent works on the Sheffield extension 'as would stop the traffic in execution thereof should it be necessary to double the line be carried out forthwith'. This extension, which will be dealt with in the next volume, was opened on 1st August 1864; it was agreed with the Midland that as soon as that took place SY trains would cease using the Wicker terminal in Sheffield.

The SY finished up with the stud of twenty-eight locomotives listed in Appendix VIII, and it is possible that Nos. 1–5 were on loan for a period before their purchase. Edward Bury built Nos. 1 and 2; they were of the firm's usual construction, with bar frames and a peculiar kind of D-shaped firebox, generally similar, it is believed, to others which had been recently supplied to the Southern Division of the LNWR. No. 3 came from William Dodds of Rotherham; fortunately a photograph taken of her as early as January 1853 has survived and is reproduced on page 226. Of the next thirteen locomotives, Nos. 4, 10–12 and 14–16 were of E. B. Wilson's standard design with double frames, No. 4 being smaller than her sisters. Nos. 6–9 were ex-Leeds Northern engines by Gilkes Wilson & Company of Middlesbrough and had single frames and outside cylinders; they do not call for special comment, save that the boiler of No. 8 exploded at Aldam in the summer of 1855,¹ and again at Wombwell in October 1859. Although a new engine 'to replace that destroyed at Wombwell', was ordered in February of

¹ Doncaster Gazette, 6th July 1855.





Top: Locomotive No. 5 Albion built on the 'Cambrian' system patented by J. Jones of Bristol.

Centre: Wilson 0-6-0 of 1856. Bottom: England 2-4-0 of 1856. the following year, it would appear that No. 8 was, in fact, extensively rebuilt and went back to work.

Nos. 5 and 13 could respectively be described as the 'freak' and 'controversial' locomotives of the SY. The former, which was named Albion, was apparently completed in 1848, but did not actually go into service until 1840. She was built on what was known as the 'Cambrian' system, of which one I. Jones of Bristol was the patentee. Her leading and middle pair of wheels were actuated by connecting rods from levers attached to a central driving shaft. Projecting beyond the frame on both sides, this shaft extended beneath the boiler and passed through a transverse segmental cylinder. within which, fitted to the shaft, was a disc piston made to vibrate throughout the length of the cylinder. Albion was fitted with link motion. The drawings were executed at the Leeds works of E. B. Wilson, and David Joy, then Chief Draughtsman, recorded in his diaries 'when we got out the details of the vibrating pistons in their cylinders the packings for these showed very slight chance of being made steamtight, and E. B. Wilson & Co gave it up after I had worked out the question to exhaustion, and the manufacture was taken up by Thwaites Bros of Bradford'. So far as is known, Albion was the only one of her kind in the country. She ended her days at Penistone and had been replaced by 1870.

Controversial engine No. 13 was one of five originally destined for Russia, but the order was repudiated, so contributing to the financial failure of George England of Hatcham Ironworks, the last private locomotive builders in London. She was a 2-4-0 with outside cylinders, as illustrated on page 249, and when she came into the possession of the MS&L was renumbered 164. According to the records at Gorton she was rebuilt as a double-framed 2-4-0 with inside cylinders and renumbered 89 (the third) in January 1894, and was so illustrated in the Great Central Railway Journal of June 1913, accompanied by a thumbnail sketch of her career until she was scrapped in September 1906. The late H. G. King, however, who did much research in connexion with the locomotives of the MS&L and its predecessors, always contended that this account is incorrect. He was firmly of the belief that whilst No. 13 was renumbered 164 in 1864 she was replaced the same year by a new class 1B double-framed 2-4-0 built by the MS&L and bearing the same number, and that it was this engine which became No. 89 and was scrapped in 1906. The ex-SY locomotive lingered on for a few years, he said, spending most of her time at Mexborough shed, and had gone before 1870. Thus, for a few years, there would have been two MS&L locomotives bearing the same number. Although the author's own researches have proved that Gorton's records were not always meticulously accurate, they are accepted in this case for two reasons. First, there is no evidence whatever that a class 1B 2-4-0 was built either at Gorton or by outside contractors in 1864. Secondly, if the Great Central Railway Journal details were wrong there were then still plenty of former MS&L and SY locomotive men alive who would have hastened to write to the Editor to tell him so; and no corrective letter or statement ever appeared in a subsequent issue.



South Yorkshire elegance. Beyer Peacock 0-6-0 No. 28, the last locomotive to be built for the company.

The remaining twelve locomotives, Nos. 17–28, were delivered from 1859 onwards. Four came from Kitson's and were the forerunners of the later Sacré class 23 goods engines. Two more of a very similar design were built by the SY in its own small workshops at Mexborough, which were brought into use in 1855. The last half dozen were turned out by Beyer Peacock & Company in 1864 and were extremely elegant looking goods engines. All became class 23 on the MS&L and all survived to work during the twentieth century. Examination of the photograph of No. 28 on page 251, the last locomotive built for the company, will reveal the unusual style of lining-out adopted for the boiler bands and tender side sheets. Unfortunately, no details of her livery, or that of any of her predecessors on the SY, appear to have survived.

A start was made with the conversion of the locomotives from coke to coal burning at the beginning of 1859, which Bartholomew calculated would annually save £970. Superheating was first introduced in the same year.

The first order for rolling stock was placed in the autumn of 1851, when it was decided to buy 100 wagons for local coal traffic. A further 250 were bought in 1854, and later in the same year it was mentioned in a minute recording the purchase of another 150 that they were to be of 8 tons capacity and would cost £86 10s each. 'Goods traffic is at present conveyed in wagons of the companies to and from whose lines they pass', commented Bartholomew in the account of his stewardship which accompanied the Directors' Report to the shareholders on 27th February 1855. Not until 1856 did the SY possess any goods wagons of its own; at the end of the first half of that year the stock position was as follows:

Locomotives .		12
Passenger coaches		8
,, vans		2
Goods wagons		57
Coal wagons .		672
Ballast wagons		25

The locomotives were recorded as consuming 33 lbs of coke per train mile in passenger service and 44 lbs on goods and mineral work. Five years later, when the number of passenger coaches had risen to 19 and the passenger vans to 20, the SY could boast of a stock of 1,199 wagons for goods and coal traffic. Its 19 locomotives were then running an average of 584 miles a week.

The permanent way of the company does not call for comment save that limestone began to take the place of sandstone as ballast in 1854. Signals, where they were installed, were of the semaphore type. For a time the points at Hexthorpe junction were normally set for the yard and reversed to enable trains to enter Doncaster station; when this happened the signalman had to sit on the point lever and on one occasion the momentary jolting jerked him from his perch, thus bringing a coach off the road! It was re-railed without any of the passengers being the wiser.

In some respects the SY emulated MS&L practices. These included the regulation that travellers at intermediate stations would be issued tickets

conditionally upon there being room on the trains; and those who were going farthest got preference when the train arrived. Dogs were not allowed to accompany passengers, and smoking was not permitted either in the trains or at the stations. Excursion trains consisting of open wagons were sometimes run, especially for race meetings. There were no bookstalls at the humble stations, but exclusive rights to advertise at them were granted to W. H. Smith & Son in the spring of 1862 for 'not less than £80 per annum'.

At the time the SY ended its independent existence the electric telegraph was in general use on the system. In March 1853, however, when the old parish church at Doncaster caught fire, there was no telegraph office at the station, and an SY locomotive was requisitioned by the Mayor to carry a telegram, appealing for help from Sheffield, to the Midland station at Swinton, where telegraph facilities were at hand. On this particular occasion some baulks had been temporarily fixed horizontally across the Warmsworth cutting to give extra support, to the detriment of the locomotive chimney!

But mishaps of one kind or another, fortunately seldom serious, were perhaps more frequent on the SY than on most other railways. Yet its operators knew how to manipulate trains, for the single track section between Aldam junction and Chapeltown was coping with 22 each way daily in the autumn of 1862. And despite all its idiosyncrasies it prospered and enjoyed a better dividend record than many of its contemporaries, because its 55\frac{3}{4} route miles of track were thronged with trains carrying black diamonds.



SY boundary stone formerly located by the junction at Tinsley station. Height 2 ft, width 1 ft, depth 8 in.

XVII

Intermission

Although during the last five years of Watkin's general managership several important steps had been taken to widen the sphere of influence of the MS&L, only one major extension was completed in that period. This was the Oldham, Ashton-under-Lyne & Guide Bridge Junction Railway.

For its promotion in the Session of 1857 the MS&L had sought the support of the LNWR and L&Y, with both of which it was to form useful links, but without success. In consequence, there had to be a whip round for subscriptions in the final stages, for which Watkin got an unaccustomed admonition from his Board. This was because he induced Sir Morton Peto and his partners to put up the unsubscribed balance of £4,600 on the understanding that they should have the contract for the line at market prices. 'The difficulty attending the . . . arrangement which he had entered into to save the Bill, and without any authority or instructions', ran the reproving minute, 'was that the Company were bound to Sir Morton Peto and could not take the benefit of open competition in the letting of the contract'. So the Board rendered the understanding void by putting up the money themselves.

At the time the OA&GB was incorporated, with a capital of £140,000, on 10th August 1857, the L&Y had indicated its willingness to take an interest in the line. The MS&L, however, had always felt that the venture should be a tripartite affair, with the LNWR as the third partner, and several discussions designed to bring this about took place during the latter part of 1858. The MS&L was particularly keen on LNWR participation, as by that means Euston Squafe might be influenced to drop a contemplated line from Guide Bridge to Stalybridge. In the end the L&Y, equally keen to keep out the North Western, withdrew its promised support, and on 30th June 1862 the OA&GB was leased to the MS&L and LNWR. Each subscribed £50,000 and appointed three Directors to the Board of nine, which was headed by John Platt as Chairman and Nathaniel Buckley as Deputy Chairman, two of the leading local spons.

By the end of March 160 the construction of the OA&GB had been finished between Guide Bridge and the junction with the L&Y near Ashton-under-Lyne. Unusually wet weather during the first seven months of that year retarded the completion of the remainder, which contained a cutting 56 feet deep between Oldham and Park Bridge, a 12 arch viaduct 200 yards long at the latter place and an 80 feet high embankment at Limehurst. On Wednesday 31st July 1861 the line was opened formally by the running of a special train conveying 200 guests, which set out from London Road at

2.

noon. Travelling slowly from Guide Bridge station so that the passengers might see the works carried out, it reached Clegg Street station, Oldham, which was gaily decorated with evergreens and mottoes, at 2 o'clock to be welcomed by the cheers of thousands of sightseers and peals of bells from the Parish Church.¹

At its northern extremity the OA&GB commenced with an end-on junction with the LNWR 17 chains west of Glodwick Road station at Oldham. Thence the line ran through Clegg Street, Park Bridge and Ashton (Oldham Road) stations. Outside the last named a junction was made with the L&Y Manchester-Stalybridge line, which was traversed for 4 chains. The OA&GB then continued its own metals from another junction, through Ashton Moss station (closed March 1862) to the MS&L main line, which it joined in the form of an inverted Y, the eastern arm entering Guide Bridge station. The total route mileage of the line was $6\frac{1}{4}$. Passenger train services commenced on 26th August, the MS&L providing the locomotives and carriages, the operation of goods traffic not beginning until 1st February 1863. W. J. Wainwright, formerly Assistant to the MS&L Secretary, was the first Manager.

Four short extensions wholly owned by the MS&L, totalling $3\frac{1}{4}$ miles, were opened during the years 1857 to 1861. Three of them, the link between Summer Lane and Regent Street stations in Barnsley, the Whisker Hill curve at Retford, and the Hyde branch, have been dealt with in earlier pages. The fourth line was physically isolated from the rest of the system. This was a $\frac{3}{4}$ mile connexion between the Great Northern and Midland across Holmes Common west of Lincoln. It had been authorized by the MS&L (Lincoln Branch &c) Act of 26th June 1855, but its construction was not started until the beginning of 1858. After inspecting the completed works, which were carried out by the MS&L Engineer, Russel, and cost £2,500, in October of that year, the Board of Trade recommended double line and the case was met by installing electric telegraph. Further delay in opening the 'Lincoln curve', as it was called, arose because Derby wanted an assurance that it would be used only for the exchange of traffic in which the Midland and the MS&L were mutually interested.

Watkin was nettled by this request. In a characteristic letter written on 16th November to W. L. Newcombe, the Midland General Manager,² he said, 'There is no likelihood of the branch being used for any purpose but the exchange of traffic between our two Compa but the exchange of traffic between our two Compa but the exchange of traffic between our two Compa but traffic over any railway sanctioned by Parliament'. His parting shot a lected the much cooler attitude of the Midland towards the MS&L since the latter had allied itself with the Great Northern and, outwardly at least, was at peace with the

¹ Ashton-under-Lyne Reporter, 3rd August 1861.

² Allport had left the Midland in 1857 to become Managing Director of Palmers of Jarrow, the famous shipbuilders. He was recalled to the general managership in 1860, having served on the Midland Board in the interim period.

North Western. 'It is high time', he wrote, 'that you elected which side to take, for unfortunately in this world people cannot continue to be on both, even though they have friends as enduring as we have been.' Watkin was instructed on 14th January 1859 to bring the Lincoln curve into use 'for such trains as are needed'.¹

Apart from the OA&GB stations and those at Hyde and Crowden, no others were opened during the period, but Stalybridge was enlarged and improved in 1858, in conjunction with the L&Y, and in October of the following year the order was given to provide refreshment rooms there and at Guide Bridge. Crowden, west of Woodhead, came into being as the result of a contribution of £50 towards its cost by a local millowner. When the plans and estimates were produced in April 1857 the MS&L boggled at spending some £400 and dropped the idea. In May 1860, however, the millowner, Brown & Company, pertinently reminded the Directors that the £50 had been in their hands for nearly four years. Somewhat abashed, the Board had the matter examined afresh and, having got the help of the Manchester Corporation over the land and road access, gave George Benton of Glossop the contract for the construction of the station at £450. It first appeared in Bradshaw's Guide of 1st July 1861. The inhabitants of Neepsend were not so fortunate. In December 1857 the Mayor of Sheffield put in a plea for a station there, but it could not be entertained because of the expense. Another attempt to get a station at Neepsend was made by local petition in the late spring of 1861, to which the MS&L responded by agreeing to pay £211, representing half the cost of construction 'if the memorialists will do likewise'. This offer fell on stony ground and Neepsend had to wait until 1888 for its station.

At the beginning of 1858 Sturges Meek, the Engineer of the L&Y, whose services had been commissioned to inspect the MS&L permanent way, reported that the last of the stone block sleepers in the main line had gone, and expressed the opinion that the track was in better fettle than it had been when his last inspection was made three years previously. Nevertheless, the Board took the advice their own Engineer had already given to replace the Memel sleepers on the eastern lines by a more suitable kind. Another item of expense soon followed. The graceful Etherow and Dinting Vale viaducts, both of which had been strengthened with extra tie rods in the middle 'fifties, and which had been insured respectively for £4,000 and £6,000 with the Scottish Union Company in August 1858, now called for drastic repairs. Sacré recommended the replacement of the whole of the timber arches in both structures by wrought iron girders and the quotation of £28,700 by William Fairbairn & Sons was accepted in November 1859. Etherow viaduct was tackled first and finished before the end of the year; the metamorphosis of Dinting Vale viaduct was accomplished a few months later. Not long afterwards the contractor system of permanent way maintenance came to an

¹ Midland Traffic Committee Minute 8717 of 15th December 1859 assented to its use subject to suitable regulations and terms,

end. James Taylor got into financial difficulties and when his affairs were disclosed in November 1860 he was found to be £40,000 in debt. The MS&L took over his plant and the work was made the responsibility of Sacré in the following May. He was instructed to add one more sleeper to the four which, it had come to light, had been parsimoniously provided for every 15 feet of rail on some 120 miles of line.

Plans for the first quadrupled section of the MS&L, between Gorton and Ashbury's, were drawn up in 1860, and in May of that year John Ashbury was persuaded to pay half the cost in return for a supply of water for 21 years from the company's canals. The quadrupling of the sections from Ashbury's to Ardwick junction and thence into London Road was an essential corollary. That Ardwick junction itself was heavily used is evident from the following census taken for 48 hours at the beginning of 1857:

Up { Passenger trains Goods trains Light engines	LNWR . 46 . 36 . 40	$ \begin{array}{c} MS & \\ 3^{1} \\ 3^{2} \\ 34 \end{array} \right\} \cdot $	<i>L&Y</i> . 11	 Total
Down { Passenger trains Goods trains Light engines	. 50 · 34 · 49	$\begin{pmatrix} 29\\37\\44 \end{pmatrix}$. 9	 252

Not a bad achievement when one remembers the simple signalling of those days.

By March 1861 agreement was reached with the LNWR over the use of the proposed widened lines between Ardwick junction and London Road. The MS&L were to vacate the original pair of tracks and be given the exclusive use of the two new lines on the northern side, except in the case of accidents, and have access across the LNWR to the MSJ&A line. Later in the year, when the necessary powers had been obtained, Sacré's layout for the quadrupling was adopted. This was designed so as to enable both pairs of tracks to be used by either railway in the event of one being out of action, and embodied a connexion between the MS&L and the L&Y at the latter's nearby Ardwick junction with the LNWR as well as that between the MS&L and MSJ&A. Plans for a rebuilt Ardwick station on the MS&L, possessing a platform 300 feet long, were also approved.

In the interests of safer train working a start was made at the end of 1857 with the division of the line into telegraphic sections, with the aid of the Electric Telegraph Company; within twelve months the regulation of all trains on the main line between Guide Bridge and New Holland was being effected by this means. Concurrently there appeared a signalling innovation in the shape of Brydone's candle lamp. This was rather an extraordinary development on a line which by then could boast gas lit signal lamps at all principal stations and on some distant signals (at others oil was the illuminant). But the Great Northern extolled its steady flame and economy in use, for gas was undoubtedly wasted through being turned on too soon, and not lit, or left on too long. A signal at Torside was the first to be so equipped

in November 1857, and two years later, on Sacré's advice, it was decided to use Brydone's candle lamps for all new or renewed signals. Soon afterwards the order was given for the back lights of signal lamps, some of which exhibited a red aspect, to be made uniform; in future all were to show green.

In mid-1861 Watkin had looked ahead eleven years, when the contract with the Electric Telegraph Company was due to expire. He suggested that trees of a suitable kind should be planted at once along the line, so that when the time came they would be the right height to carry the company's own wires! This idea was adopted and the order was given for 25 trees per

mile, at $8s \frac{1}{2}d$ each including labour, to be planted.

Sunday excursions were abolished in the same year, albeit only temporarily. Since 1856 the MS&L had been assailed by petitions from towns in the eastern part of its system, such as Grimsby, Lincoln, Retford and Worksop, to remove a facility which enabled the poorer denizens of Manchester and Sheffield to escape from their squalid industrial surroundings for a day in the countryside. Hitherto, by a majority vote of the Board, they had been declined. In April 1861, however, the clergy in various localities from Sheffield to Grimsby combined to ask the MS&L to cease running Sunday cheap trips on the grounds that not only the excursionists, but those with whom they came in contact, were demoralized. The Board gave way, despite Watkin's estimate that an annual revenue of some £4,000 to £5,000 would be lost as a consequence. Two years later Sunday excursions from Sheffield to Worksop, Retford and Grimsby were resumed in the face of vigorous protests from the Vicars of Retford and Clarborough.

Most of the MS&L offices were closed on Monday, 23rd December 1861, the day of the funeral of Prince Albert, whose interest in the company's maritime affairs had been so tangibly manifested. The passing of Queen Victoria's Consort was closely followed by that of Lord Yarborough, who died at Brighton in his fifty-third year on 7th January. Born on 12th April 1809, his life had spanned a period in which the methods of inland transport had been revolutionized by the steam locomotive. His place on the Board

was taken by Richard Withers of Liverpool.

Early in 1862 Chapman, Barker and Shand who, it will be remembered, had been turning their attention to the salaries and duties of the officers, put forward their recommendations, all of which were adopted. In future, no salaries were to be supplemented by percentage amounts and all appointments were to be terminable by six months' notice on either side; all officers were to devote their whole time to their jobs and hold no outside appointments, railway or otherwise; and all had to live within two miles of head-quarters. The salaries assigned, as from 1st January, were Underdown, £1,400; Ross and Sacré, £1,200 each; Robert Smith, the Canal Manager, and C. H. Smith, the Goods Manager, £800 each; Hargreaves, Superintendent of the Line, £500; and Robert Williams, Audit Clerk, who had succeeded Underdown as Accountant, £400.

¹ Locomotive and Stores Committee, 30th September 1859. ² Finance Committee, 6th January 1860.



Reproduction of a water-colour of the Victoria Hotel at Sheffield, painted soon after its opening in 1862. The frontage of Victoria station is on the right.

Ill-health and death created several gaps both in the management and direction during 1862. Adam Smith, the ailing Resident Engineer at Grimsby, whose daughter, incidentally, married Ross, resigned in May; his services were retained in a consulting capacity and his responsibilities transferred to Sacré. Joseph Guy, Law Clerk since 1853, was worried about his health and wished to retire in September: but by mid-June he had entered his office at 6 Ducie Street, Manchester, for the last time—he died at Gainsborough on the 16th of that month. In his place, John R. Lingard, who had so doughtily espoused MS&L interests over the promotion of the Stockport, Timperley & Altrincham Junction, was appointed Solicitor at a salary of £1.500 a year; he was allowed to remain a partner in his firm and to continue to act for Cheshire families for whom he was Agent, so long as his MS&L duties did not suffer. Hargreaves, whose health was also failing, fell out with Underdown because he would not have his duties reduced in any way, and resigned in November after seventeen years' service with the SA&M and MS&L. He was succeeded by William Bradley, District Agent for the Southern Division of the Great Northern, who was appointed at £350 a year.

W. H. Brook, a Director since 1850, died in November and John Pender of Manchester was elected to succeed him. Sir Andrew Orr, who earlier had intimated his desire to leave the Board, resigned in December. His seat was taken by Sam Mendel of Manchester, William Hutton having withdrawn his nomination of Lord Yarborough, the third Earl, in order to avoid a

division of opinion amongst his colleagues.

Before much of 1863 had elapsed further Board changes occurred. Another Director since 1850, George Gamble, aware that some of the shareholders wanted Andrew McDougall of Manchester, in his place, resigned on 28th January and was succeeded by his rival the same day. Deference to the wishes of the shareholders also led to the departure of Samuel Lees, who had come in for criticism because his daughter was married to an architect employed by the MS&L; the fact that he had been a Director since 1849 did not seem to count for much. He resigned on 13th February and the Board now accepted the third Earl of Yarborough as a colleague. A fortnight later Charles Younge, vet another of the 'Old Guard', relinquished his seat and the time had arrived for the come-back of Edward Watkin to be engineered. Since his departure Watkin had retained his directorship of the West Midland and had added lustre to his reputation by becoming President of the Grand Trunk in November 1862. His friend William Fenton, Chairman of the West Midland, at once signified his intention of recommending, at the next Board meeting, that Watkin should fill the vacancy created by Younge's resignation. On 13th March 1863 Watkin resumed his close association with the MS&L, when he was unanimously elected a Director. The fact that on 30th June 1862 the Midland had got Parliamentary sanction to extend from its Buxton line to New Mills, the very scheme which he had given as the reason for his resignation from the general managership, was apparently no longer regarded as an obstacle! And so, until his resignation from the Grand Trunk in 1868, Watkin was to indulge in far more Transatlantic crossings

than most of his contemporary tycoons, in order to attend to his English and Canadian railway interests.

This gradual transformation in the make-up of the Board was accompanied by some expansion of the system. In the west the Cheshire Midland was opened for passenger traffic between Altrincham and Knutsford on 12th May 1862, and between the latter place and Northwich on New Year's Day of the following year, totalling 123 miles. The intermediate stations are shown in the timetables on page 288. Goods traffic began on 1st May 1863. In the Manchester area the extended Hyde branch was opened for passenger traffic as far as Marple, 42 miles, on 5th August 1862, serving Woodley and Romiley en route; a third intermediate station, Hyde Junction, having no platforms on the main line, made its first appearance in Bradshaw's Guide in February 1863. On the 12th of the preceding month passenger services commenced over the 2\frac{3}{4} miles connecting Stockport & Woodley Junction. In Sheffield, the Victoria Hotel, adjoining the MS&L station, was opened on 23rd September 1862. First mooted early in 1856, its construction was achieved by the flotation of a separate enterprise, called the Sheffield Hotel Company, at the close of 1859. There was strong local opposition to the site chosen, and had not the MS&L and Great Northern each subscribed £2,500 the scheme would doubtless have fallen through. The £10,000 contract for its erection went to Chadwick & Sons of Masborough in November 1860. In the east, the long awaited single track branch of 21 miles from Grimsby to Cleethorpes, authorized in the successful Session of 1861, was opened for passenger traffic on 6th April 1863; delay in the construction of this line had largely been caused because of difficulties with local landowners.

The understanding reached with the Midland brought to an end the rivalry between the two railways, which had persisted since the summer of 1860, over a contemplated line from Shireoaks or Worksop to Mansfield. For the Session of 1861 both companies, the MS&L with the support of the Great Northern, had deposited Bills which were eventually withdrawn. In November of that year the Midland promised the MS&L equal rights and powers in any future scheme for the district. The Midland also backed the MS&L in its Birkenhead Docks & West Cheshire Junction Bill of 1862, but this was likewise withdrawn. Two other Bills to share the same fate were those for transferring the South Yorkshire to the MS&L and for extending the Garston & Liverpool into the centre of Liverpool.

Two further Bills of 1862 in which the MS&L was interested were successful. One was for a cut-off from Godley to Woodley, which received the Royal Assent on 30th June, the line being eventually embodied in the Cheshire Lines Committee. The other was for the West Riding & Grimsby (originally entitled West Riding, Hull & Grimsby) Railway, incorporated on 7th August with a capital of £360,000. This was projected by the South Yorkshire, in concert with the MS&L, for the construction of a line from the Bradford, Wakefield & Leeds (later West Yorkshire) Railway at Wakefield to the SY near Barnby Dun, with a branch to Doncaster. The sponsoring railways guaranteed a minimum of $4\frac{1}{2}\%$ on the capital.

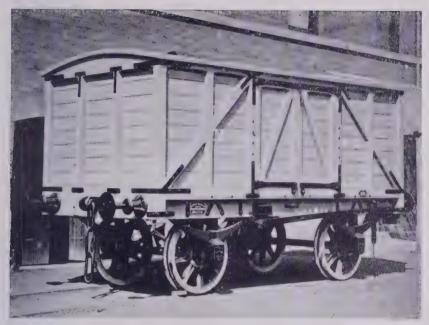
The period was, however, a bad one for railway promotion or construction. Trade had fallen off and the American Civil War, which brought a failure of cotton supplies in its train, had caused such acute distress in the manufacturing districts of Lancashire that in 1862 some 169,500 people were thrown upon parish relief. At the MS&L half-yearly meeting on 3rd July of that year, Francis Morton of Liverpool proposed and Edward Watkin (back in this country for a brief respite from Grand Trunk affairs) seconded a resolution that each proprietor should make a contribution of 5%, from his dividend or annuity, towards a Famine Fund, which was formed that month. It was carried unanimously, and in November Underdown was given discretionary powers to grant free transport for food and clothing, as was already the case for coal.

Against this depressing background took place the genesis of the formation of the Cheshire Lines Committee. On 11th June 1862 the MS&L and the Great Northern came to an agreement over the future of the West Cheshire, the Cheshire Midland, the Stockport, Timperley & Altrincham Junction and the Stockport & Woodley Junction Railways. Each was to subscribe equally towards the capital of these lines, an understanding which was subsequently extended to the Garston & Liverpool Railway. The constitution of a joint committee for the four lines was confirmed by the Great Northern (Cheshire Lines) Act of 13th July 1863. The first joint line officer was William English, formerly SY Traffic Manager, appointed Manager of the Garston & Liverpool, then nearing completion, in December 1863.

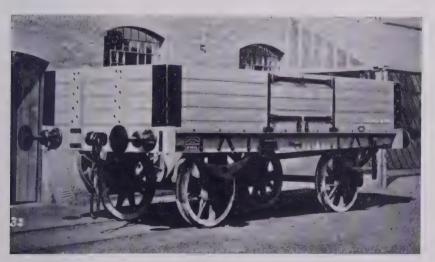
In March of that year, as a result of public pressure, the MS&L had agreed to rebuild its rather miserable little station at Dukinfield. This simply consisted of a platform and open shed on the down side, and a bare narrow platform on the up, all of wooden construction, as were the steps by which they were approached. Nearby were half-a-dozen small cottages owned by the company, one of which, the residence of the clerk-in-charge, was used as a booking office and waiting room. The site of the new station was close to the point where the railway crossed the Peak Forest Canal, 117 yards nearer Guide Bridge. Barnes & Beckett's tender of £1,620 for its construction was accepted in May. Later in the year Sacré produced a plan for the reconstruction of Ashbury's station, now handling increasing numbers of excursionists to Belle Vue. But the Board quibbled at the estimated cost of over £5,000 and the project was deferred.

The contract for the construction of the $2\frac{1}{4}$ miles Godley-Woodley line was also placed in March with Knight & Gordon, some of whose prices are quoted below:

Earthwork						11d per cubic ya	ard
99	,, fo	undat	ions			10d ,, ,,	22
Rails						£7 10s per ton	
Chairs						£5 ,, ,,	
Fishplates						£10 5s ,, ,,	
Spikes					٠	£11 ,, ,,	
Bolts for fi	shing		•			£28 ,, ,,	
Sleepers				•		5s each	



9-ton van No. 4564 built 1863 by Gloucester Wagon Co. Ltd (Tare 5-3-0).



9-ton wagon No. 5014 built 1863 by Gloucester Wagon Co. Ltd (Tare 4-12-0).

The absence of keys will be noted, it being the current practice of the MS&L and some other railways to secure the rails directly to the sleepers by means of cast iron brackets, or keyless chairs, bolted through the rails, so saving about 19 tons of cast iron per mile. The rails were still of iron, but in September 1863 Sacré's suggestion that all new and renewed points and crossings should be of steel was adopted.

In April an economy of some £4,000 a year was secured by transferring canal management, accountancy and engineering matters to Underdown, Williams and Sacré respectively, and dispensing with the services of Robert Smith, the Canal Manager. Because of his long service Smith was given

fifteen months' salary on his departure.

The Canal Department then maintained 35 rain gauges at various points on the system, ranging in altitude from 16 feet (at Brigg) to 1,669 feet (at Combs Moss) above sea level. These rain gauges were dealt with in the MS&L General Instructions to the Officers and Servants of January 1863 and throw an unusual sidelight on railway history. The directions ran as follows:

At stations where there are rain gauges, the water collected in these gauges must be carefully measured, and the measure registered in the book provided for that purpose. This must be done *every* morning, as near *eight o'clock* as practicable; a weekly return being sent to the Canal Manager.

316 The fall of water taken each morning at 8 a.m. must be registered as having

fallen on the previous day.

317 In the case of frost or snow, the bottles must be thawed every morning.

318 Should the Measuring Glass get broken or the Funnel damaged, a report

must be immediately sent to the Canal Manager.

When the calendar month ends on any other day than Saturday, a return must be made out for the first portion of the week to, and inclusive of, the last day of the month; and a second return must be made out from, and inclusive of, the first day of the next month to the end of the week.

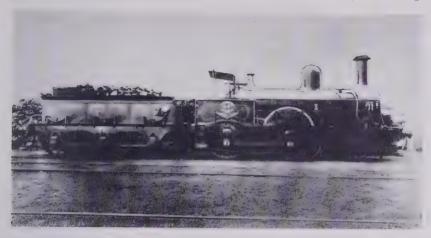
It is not unlikely that some of the staff concerned roundly cursed all this form filling for the Canal Manager, especially those in the Manchester area, who

must have been kept busy practically all the year round!

The same publication reveals other contemporary facts and practices of interest. By then the system had been divided into Nos. 1 and 2 Districts, each in charge of a District Agent (located at Manchester and Retford), extending from Manchester up to but excluding Retford, and from Retford to all points east, including the Humber ferry and Hull. Stations were still under the control of clerks-in-charge or station masters. The pay of a junior clerk (described as an 'assistant clerk') of 15 to under 20 years of age ranged from 5s to 15s 4d per week, 'according to qualification'. The pay of a lad porter was 7s to 14s per week. A fully fledged porter got 15s to 18s 'and must be 5 feet 7 inches in height, without his shoes'. Uniform porters, obviously!

Although in those days the MS&L provided sheets and ropes, it held no stock of sacks, and those who needed them for grain and seed traffic had to hire them, through the local clerk-in-charge, from J. D. Lee, whose sack

¹ The Engineer, Vol. X, page 148.



2-4-0 No. 4 (ii), originally built by Fairbairn in 1859 as rebuilt in 1880, when she was renumbered 67 (iii). Note that the brass safety-valve cover still survived.

depot was at New Holland. Sacks hired from MS&L or SY stations bore the distinguishing marks shown in the sketch on page 205, for the Great Eastern, Great Northern, LNWR and Midland also employed the same firm. So far as passengers were concerned smoking was still prohibited in trains and at stations, and they were not permitted to take dogs with them in the compartments. But the clerical staff were directed 'in corresponding with the Public a desire to please, and an anxiety to remedy any evil complained of, should be made evident'.

In the late summer of 1863 the growth of the MS&L over the ensuing two or three years was foreshadowed by the amount of new railway construction then proceeding apace. Work was going on simultaneously on the Garston & Liverpool, the Stockport, Timperley & Altrincham Junction, the Marple, New Mills & Hayfield Junction, the Trent, Ancholme & Grimsby and the West Riding & Grimsby. In 1864 it was hoped that the Bill to be promoted by the SY for the lease of its undertaking to the MS&L would finally get legislative sanction. The situation in 1863, when the company had no Bills in Parliament, was hardly likely to be repeated now that the ambitious Watkin was on the Board. The coming Session promised to be a full one, with deputations for lines from Macclesfield to Bollington and Marple, from Macclesfield to Knutsford, from Knutsford to Warrington and for a Cheadle, Didsbury & Manchester Railway, all soliciting the favour of the MS&L. In addition, it was to seek powers for running its own steamships from Grimsby to sixteen European ports.

The manoeuvres which formed a prelude to the more dominant role the MS&L was to play in the railway world were mostly executed during the

closing months on 1863. And now that all the actors have long since departed, and their private correspondence with them, it is difficult to do much more than chronicle the known events as they occurred. It is clear, however, that Watkin, now a bigger shareholder than ever, was discontented with the existing direction. His prestige, too, was higher than ever. In the amalgamation of the West Midland with the Great Western in 1863 he had become a Director of the latter; Fenton, his friend and co-director on the MS&L, had also moved up from chairmanship of the West Midland to deputy chairmanship of the enlarged Great Western. To his colleagues on 23rd October Watkin gave notice that at the next Board meeting he would move 'That in view of the serious questions of Policy and Finance now affecting the position and prospects of the proprietors it is desirable that the Board considered its organisation as respects the offices of Chairman and Deputy Chairman'.

Was this aimed at Barker rather than Chapman? The Chairman was then in his fifty-fourth year and, although his health had somewhat deteriorated, his wisdom and courage cannot be questioned; furthermore, his record of attendance at Board and Committee meetings could stand comparison with all his colleagues. However, one of the shafts found its mark, and on 6th November Watkin withdrew his notice of motion upon Chapman producing a letter from Barker resigning the office of Deputy Chairman on the grounds of ill-health.

An old debt was then immediately repaid. Watkin, who owed his seat to Fenton, at once moved that his benefactor should succeed Barker. Seconded by Charles Turner (who, with Chapman, shared the distinction of being the last of the original directorate of 1847), Fenton was duly elected, a fortnight later, for the remainder of the year. Simultaneously another resignation was then tendered. This came from Mendel, who had become a Director only the previous year. He was asked to remain until the half-yearly meeting in the coming January, but at the Board on 4th December Watkin was ready with a successor. His nomination was the Hon. William Eden, Chairman of the SY, who, a week before Christmas, was installed in Mendel's place.

The final move in this game of general post took place on 27th January 1864. On that day John Chapman presided over the Board for the last time as Chairman of the MS&L, it having been announced to the world at large that 'owing to ill-health and consequent inability to give that attention which the duties require' he had signified his intention not to accept the office for the ensuing year.

Only one member of the cast which had formed to run with few changes in almost two decades, the leading man himself, had now to take his place on the MS&L stage. Already amongst those assembled were the astute Fenton and the elder statesmen, Chapman and Turner. Supporting them were Underdown, the able General Manager, Sacré, the genial, capable Engineer-of-all-trades, and Ross, the dapper, diplomatic Secretary.

On the morrow the last of the British 'Railway Kings', Edward Watkin, was to begin his long reign.

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APPENDIX I

SHEFFIELD, ASHTON-UNDER-LYNE & MANCHESTER RAILWAY

Incorporated 5th May 1837

Chairmen, Deputy Chairmen, Directors and Officers 1837-1846

Chairman Lord Wharncliffe John Parker, M.P. John Chapman	1837-1840 1840-1846 1846	Joe Sidebottom John Sykes Thomas Smith William Smith	1837–1843 1837–1843 1837–1843 1837–1838
Deputy Chairmen William Sidebottom John Chapman Directors	1837–1843 1843–1846	John Rodgers Charles Appleby John Turner Cornelius Randall David Waddington	1838-1842 1838-1846 1840-1843 1840-1846 1840-1841
John Bennett Thomas Blake	1837–1841 1837–1843	John Chapman ¹ Alexander Wylde	1841–1843
William Butcher	and 1844-1846	Thorneley	1841
	1837-1843	James Perry	1841–1846
John Dalton	1837-1843	William Bradley Thomas Nicholson Edmund Peel Thomson	1842–1846
Michael Ellison	1837-1846		1843–1844
Thomas Ellison	1837-1840		1843
Thomas Laycock	1837-1838	Thomas Townend	1843
James Rhodes	1837-1840	Richard Matley	1844-1846
George Sidebottom	1837-1841	Joseph St John Yates	1844-1846
James Sidebottom	1837-1843	Charles Turner	1846

John Wood, Aaron Lees and Hugh Parker were named as Directors in the Act, but their places were taken by John Bennett, John Dalton and John Sykes.

Secretary Thomas Asline Ward ² Charles Thomson John Platford ³ James Meadows ³	1837-1838 1838-1841 1841-1845 1846	Goods Manager John Platford ⁴ C. W. Eborall Superintendent Walthall Gretton	1846 1846
Bookkeeper G. B. Johnson John Whiteley W. H. Rowley	1837–1839 1839–1845 1845–1846	Engineer-in-Chief Charles Blacker Vignoles ⁵ Joseph Locke Alfred Stanistreet Jee	1838-1839 1840-1846 1846
Locomotive Superintendent Richard Peacock	1841–1846	Resident Engineer – Cooper Alfred Stanistreet Jee John Bass	1839-1840 1840-1846 1846

NOTES

Subsequently Deputy-Chairman and Chairman.
 Designated Secretary and Clerk.
 Designated Clerk and Secretary.
 First designated Traffic Manager.
 Designated Engineer prior to 24th July 1839.

APPENDIX II

SHEFFIELD, ASHTON UNDER LYNE & MANCHESTER RAILWAY

An Account or List of the several rates tonnages tolls and duties which the Sheffield, Ashton under Lyne & Manchester Railway Company direct and appoint to be taken on this Railway

For Coal and Limestone and for Dung Compost or other Manure and for materials for the repair of public roads the sum of one penny halfpenny per ton per mile.

For Lime, Coke, Culm, Charcoal, Cinders, Stone, Sand, Clay, Ironstone, Iron Ore, building, pitching, and paving stones, Flags, Bricks, Tiles and Slates the sum of twopence per ton per mile.

For Corn, Grain, Flour, Dyewoods, Timber, Staves, Deals, Lead, pig, bar, rod, hoop, sheet, and all other wrought iron and castings not manufactured into Machinery, Utensils or into other articles of Merchandise and other Metals the sum of threepence per ton per mile.

For Cotton and other Wool, Hides, Drugs, manufactured goods and all other Wares, Merchandise, Articles, matters or things the sum of threepence halfpenny per ton per mile. For every person conveyed in or upon any carriage upon the said Railway the sum of two-

pence per mile.

For every horse, mule, or ass or other beast of draught or burden and for every ox, cow, bull, or neat cattle conveyed in or upon such carriage the sum of one halfpenny per mile. For every sheep, lamb, calf, pig or other small animal conveyed in or upon any such carriage

the sum of one halfpenny per mile. For every carriage of whatsoever description not being a carriage adapted and used for travelling on a Railway and not weighing more than one ton carried or conveyed on a truck

or platform the sum of fourpence per mile.

For every carriage weighing more than one ton the sum of fourpence per ton per mile. In all cases of carriage for a less distance than six miles the Charge will be for six miles and in all cases (beyond six miles) where there shall be a fraction of a mile the charge will be according to the number of quarters of a mile. And where there shall be a fraction of a quarter of a mile such fraction will be considered as a quarter of a mile. And in all cases of a fraction of a ton the charge will be according to the number of quarters of a ton. And where there shall be a fraction of a quarter of a ton such fraction shall be charged as a quarter of a ton.

And Notice is hereby given that the aforesaid Rates, Tonnages, Tolls and Duties are to be paid to Mr John Platford at the Company Offices No 15 Piccadilly in Manchester or to their Principal Agent at their Booking Office at the Manchester, Ashton under Lyne or Newton

and Hyde stations....

Dated this 3rd day of November 1841.

Some subsequent rates decisions 1842–1846

28/6/42 Dunkirk Coal Co. to be informed that the following tolls will be charged on coals carried on this line by the Company:

To Manchester 14d per ton 5d ,, Newton

6d ,, Godley until 25th September next.

- 10/12/42 Charge for conveyance of cotton between Manchester and Glossop to be 5d per ton per mile and for timber 4d per ton per mile, the Company providing the wagons and the owners loading and unloading.
- 14/2/43 One halfpenny per ton per mile to be allowed to all persons conveying goods in their own wagons.
- Charges for conveyance of sheep from Glossop to Ardwick to be: 25/2/43

10/- per double tiered wagon 4/- ,, single (or cattle) wagon

Charges for conveyance of coke to be: 8/4/43 21d per ton per mile if in sacks

 $2\frac{3}{4}d$,, ,, ,, if loose

Charges for horses and carriages from Manchester to be as follows: 11/5/44

	Ashton	Newton	Broad- bottom	Glossop
I horse	4/	5/6	7/6	8/-
2 horses	5/6	7/6	10/	11/6
3	6/6	9/6	13/_	14/6
2 wheel carriage	4/-	5/6	7/6	8/6
4 ,, ,,	5/6	7/6	10/–	11/6

Grooms to travel at 3rd class fares in the boxes.

16/7/44 The following notice to be issued:

'This Company do not carry on any terms Aqua Fortis, Vitriol, Gunpowder, Lucifer or Congreve Matches, Fireworks or such like combustible articles.

charged except that a fraction of a quarter of a cwt. will be charged as a quarter

'Any loss or damage that may arise by improper loading will be charged to the party who loads the wagon or wagons.

No wagon will be charged less than one ton. Above that the actual weight will be

'No wagon must be loaded with more than four tons.'

14/9/44 Minimum charge for goods to be 3 miles.

'3/- per wagon per day to be charged to the different carriers on the line for 18/1/45 keeping each of the Company's wagons laden for more than 24 hours."

APPENDIX III

GRIMSBY DOCKS COMPANY

Incorporated 8th August 1845

Chairman, Deputy Chairman, Directors and Officers 1845-1846

Chairman Lord Worsley¹

Deputy Chairman Richard Thorold

Directors

George Marmaduke Alington Ayscoghe Boucherett

William Brooks²

Charles Tennyson D'Eyncourt

Michael Ellison Edward Heneage

George Fieschi Heneage Thomas Newmarch

George Skipworth William Smith James Wall

George Monier Williams³

Joint Secretaries George Babb

John Hambly Humfrey

Hon. Alexander Leslie Melville

Bookkeeper

John Stansfield

Engineer

James Meadows Rendel

Resident Engineer

Adam Smith

NOTES

Became Earl of Yarborough in 1846.

² Brooks was Mayor of Grimsby. He was not named in the Act, which laid down that the Board of 14 should include the Mayor, for the time being, of the Borough of Grimsby.

³ Made Managing Director 23rd April 1846.

GREAT GRIMSBY & SHEFFIELD JUNCTION RAILWAY

Incorporated 30th June 1845

Chairman, Deputy Chairman, Directors and Officers 1845-1846

Chairman Lord Worsley^{1,3}

Deputy Chairman Michael Ellison²

Directors
James Dixon^{2,4}
Thomas John Dixon

Dr George Calvert Holland^{2, 5} Abraham Howe^{2, 5} Cornelius Randall^{2, 3} James Wall² Thomas Asline Ward² John Woodcroft²

John Woodcroft²
John Jobson Smith^{2,4}
George Fieschi Heneage⁶
Richard Thorold⁶

John Stansfield
Engineer
John Fowler

Bookkeeper

Secretary and Bookkeeper

Secretary and Bookkeeper

John Stansfield

John Fowler

Bookkeeber

Engineer

John Hambly Humfrey®

John Hambly Humfrey®

NOTES

¹ Became Earl of Yarborough in 1846.
² Member of the Provisional Board.

³ Randall was named in the Act but resigned before the first Board meeting was held; Lord Worsley was appointed in his place.

⁴ Dixon resigned in September 1845 and was succeeded by Jobson Smith.

^b Holland and Howe resigned in February 1846 and were succeeded by Heneage in May and by Thorold later in the year.

6 Became Secretary only on appointment of Stansfield as Bookkeeper | 1th November 1845.

SHEFFIELD & LINCOLNSHIRE JUNCTION RAILWAY SHEFFIELD & LINCOLNSHIRE EXTENSION RAILWAY

Both incorporated 3rd August 1846

Chairman, Deputy Chairman, Directors and Officers 1846

Chairman John Jobson Smith²

Deputy Chairman John Woodcroft²

Directors
James Dixon^{2,3}
Michael Ellison²
Dr George Calvert Holland²
Abraham Howe⁴
Cornelius Randall^{2,6}
James Wall²
Thomas Asline Ward²
Lord Worsley^{1,4}

Dr Mariano Martin de Bartolomé⁵ Granville Edward Harcourt Vernon^{2,3}

NOTES

3 Dixon was disqualified as a Director in September through not possessing sufficient stock (40 shares amounting to £1,000) and was succeeded by Vernon.

⁴ Howe was named in the Act but resigned before the first Board meeting was held; Lord Worsley was appointed in his place.

⁵ Randall resigned in August and was succeeded by de Bartolomé.

* Became Secretary only on appointment of Stansfield as Bookkeeper 11th November 1845.

MANCHESTER & LINCOLN UNION RAILWAY & CHESTER-FIELD & GAINSBOROUGH CANAL COMPANY

Incorporated 7th August 1846

Chairman, Deputy Chairman, Directors and Secretary 1846-1847

Chairman

Hon. George Henry Cavendish

Deputy Chairman

Joseph Paxton

Directors

Richard Barrow George Chapman William Pickford Collett John Collingham Hon. Arthur Duncombe

Edward Gilling Maynard

William Mee William Hutton¹

Sir Isaac Morley¹

Secretary - Cutbill

NOTES

¹ Neither Hutton nor Morley were named in the Act; it is not known which Directors they succeeded

APPENDIX IV

SA&M GG&SJ AND MS&L LOCOMOTIVES 1841-1863

showing principal dimensions as originally built

	No.	Class	Туре	Date	Maker and No.	Cost	Dia. of driving or coupled wheels	Dia. of other wheels	Cylinders dia. x stroke	Remarks
SA&M Locomotives	(i) –	4th	0-4-2	10 41	KY	1,695	5.0″	3,6″	13" × 20"	Conv. to WT before 12/56 Sold 1859
		ı	*	14/	"	6. D	**	33	2	Sold 1847
	E:	ŀ	,,	:	000000		9.9	66	***************************************	77 51 11 27 1 47 47 11 11 11 11
	£.	1	7-7-7	14.41	KS 320	0,830		:	4 × + 18	Sold 1860
-	5 (i)	1	13	1/42	SR 162	1,705	6		6.6	99 93
	(i) 9	1	2	4/42	,, 182	**	:	66	***	99
		1	3.3	3.3		3.3	***		**	
		1	12	12/43	SB 226	1,550	:	9.6		
	(<u>i</u>) 6	1	33	10/44	,, 269	1,661	11	9.4	14" × 20"	Conv. to WT before 12/56
		1	6.6	12/44	,, 274	1,565	3.3	6.6	• •	

Name	Nos	Class	Туре	Date	Maker and No.	Cost	Dia. of driving or coupled wheels	Dia. of other wheels	Cylinders dia. x stroke	Remarks
Pluto		1	2-2-2	3/45	SB 287	1,660	2.0″	3'6"	15" × 20"	Conv. to WT before 12/56
Charon	(E)	1	:	2.4 F.2.4	,, 288	:	:	:		
Cyclops	E S	ı	**	4/40			:	:	:	73/C1 mojout T/V/ 04 10/C2
Logodina	E:	1						,	:	Colly, to vy l before 12/36
Milo	E 9	1 1	: :	5/45	294	: :	: :			Conv. to WT hefore 12/56
Saturn	EE 22	i	: :	12/45	,, 322	1,810	: :	: :	: :	
Bacchus		ſ	,,			:	::	:	**	
Cerberus		ī	,,	**	,, 324		:	**	:	Conv. to WT before 12/56
Alecto	(i) (i) (ii)	1	,,	:	,, 325	:	:	,,	**	
Argus	(i)	ı		"	,, 326	:	**			Conv. to WT before 12/56
Harpie		ı	:	;		;	:	:	;	2014 10/1/83
Midas	23 (1)	t		1/46	329	2,150		2 2		Conv. to WT before 12/56
Ajax	24 (i)	1	:	3/46	,, 336	2,250	:	33		
Archimedes		4th	2-4-0		<u>ნ</u>	2,400	2,6″	:		Name transf. to No. 6 (ii)
Arlac	76 (i)	2,77	0-6-0	5/46	CR 344	2 500	4,4"		18" ~ 74"	Beb Class 3 1840
Achilles	27 (3)	ה ו ה	2-2-2	11/46	382	2.250	2,0,2	3.6"	14" × 20"	Copy to WT hefore 12/56
Ulysses	(E) 78 78	4th	, ,	12,46	,, 385	2,410	:	÷	15" × 20"	Reb. as 2-4-0 in period
	3	(as reb.)			(7/55 to 11/57
Menelaus	29 (i)	2,2		7,,7	,, 386	0,10	1,1	:	"70"	D.L
Ixion	318	ה ו ה	2-2-2	3/47		2.250	5,0	3,6"	15" × 20"	Neb. Class 3 1002
Fury	32 (1)	4th	2-4-0	1/47	. U	2,550		, :	: :	
Vulcan	33 (i)			6/47		2,380	4.6	**	"	
Hector	34 (i)	3rd	0-9-0	7/47	SB 422	2,580	4′6″	1	18" × 24"	Reb. Class 3 1865
Jupiter	3 (ii)		•	9,4/	: 44	**	"	ı	,,	Reb. Class 3 1863. This
										engine had 116 tubes as
										26 30 and 34 Cer 1889
Jenny Sharp	2 (ii)	ı	2-2-2	10/47	., 445	2,550	2,6″	3.6″	15" × 20"	20. 130 110 110 120 120
Pegasus	35 (i)	ſ	2-2-2	12/47	7	3,065	,0,9	4.0″	16" × 20"	Crampton engine

Phlegon	36 (i)	1	2-2-2	1/48	2	3,050	0.9	4.0″	16" × 20"	Crampton engine. Name transf. to No. 7 (ii)
Mentor	37 (i)	4th	0-4-2	4/48	G	2,600	2.0″	3'6"	$15\frac{1}{2}$ " × 22"	before 29/10/58
Bellerophon	38 (i)	11	:	5/48	SB -	2,360	4 6	66	9.3	
Mars	39 (i)	:		6/48	U	2,600		,,	:	
Triton	40 (i)			8/48	11	7,600		**	:	
Neptune	_	**		11/48	,,	,,	:	:	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Taurus	_	,,		9/49		11	2.0	3.3	.77 × .91	
Plutus	_	11		11/49		9.6		4.6		
Gorgon	_	2nd	0-9-0	6/49	SB 605	2,830	5.01	ŀ	18" × 24"	Reb. Class 3
Stentor	45 (i)	,,	:	10/49	,, 607	**	:	1	3.3	,, ,, 1864
Erebus	-		:	,,	,, 608	3.3	**	ı	6.6	., ,, 1861
Medusa	_			11/49	,, 614			ı	,,	1
Sysiphus	_	:	:	12,49	,, 621	**	÷	ı	33	., , , , , ,
Sphynx	_	ţ	:	7/50	,, 622	:	:	1	:	:
GG&S/ Locomotives	_									
Grecian		4th	2-4-0	7/47	Ŧ	2,250	5.0″	3.6"	16" × 22"	
Minotaur	51 (i)	,,		9/47		3.3	,,	:		
Proteus		:	:	12/47	,,		1,	11	,,	
Polyphemus		,,	:	1/48	:	:	**	,,	**	
Terror		;	,,	7/48	,,			3.5	**	
Adonis		13	:	6/48	≯		2.6″	4,0″	15" × 20"	
Jason			:	**	:	:		::		
Perseus		1,1		î	33	11		3.3	3.3	Reb. as 2-2-2 in period
										3/55 to 11/5/
Niobe		1	2-2-2	13	**	2,200	"0, 9	6.0	6.0	
Tantalus	59 (i)	ΙŞ	.,	1,1	: 0		****	***		
Nemesis		4th	7-4-0	::0	9 3	2,300	000	0 0	10½ X 22	Rep. as 0-6-0 1/63
Jenny Lind		1	7-7-7	/ 48	>	7,200	0.9	, 4 O	15" × 20"	Keb. 1862
Queen		3rd	••	8 48	SB 526	2,506	2,6″	3,6″	15½" × 20"	
Daedalion		l	2-4-0	11,48	Ŧ	2,250	5.0″	3 2	15" × 22"	Reb. as 0-6-0 in period
Pallac		1	2-2-2	84	SB 527	2 506	2,6"		15" × 20"	8/35 to 11/5/
Prince Albert			1	2	802	î	,	6.		
Dido	(5)	1 1	0-4-7	97/48	270 :	2 390	2,0,2	2.2	16" > 22"	
2			-	2	:	2,0,0	, ,	9.9		

Remarks	Probably rena, in 1856.	Reb. Class 2 4/61 Reb. Class 2 Reb. Class 2 Reb. Class 16 2/62.					Built for MSJ&A Reb. Class 19 1866 Reno. 150 (ii) 4/01	Scr. 1902 Reb. Class 19 1/76	Reb. Class 19 1862 Reb. Class 19 1/77	Scr. 1901 Reb. Class 19 5/62 Scr. 1901	Rob Class 20	,, ,,	9.9	09/6	
Cylinders dia. × stroke	16" × 20"	". 15″×21″	15" × 20" 16" × 20"	: :			15" × 20" 16" × 21"	:	", 21"	:	:	: :	15" ", 22"	77 × CI	16" × 24"
Dia. of other wheels	3,6″	2 2 2	: :	: :	*		::	:	3,6″	:	÷	: :	:	: :	: 1
Dia. of driving or coupled wheels	2,6″	2 2 2	6'0"	: :	:		: :		2,4	:	:	. :	:	: :	5,0″
Cost	2,490	2,150	2,490 2,675	::	:		1,880	2,400	2,400	\$:	: :	,,	: :	2.2
Maker and No.	SB 539	543 F 546	SB 590	., 598	" 603		SB 616 H 619	,, 620	H 622	,, 623	,, 624	., 626	,, 627	,, 629	,, 630 W
Date	9/48	3/49	7/49	9,49	11/49		8/49 6/49	7/49	8/49 6/9/49	24/9/49	23/10/49	30/11/49	13/12/49	17/1/50	12/3/50 24/8/49
Туре	2-2-2	:::	2-4-0	: :	:		2-2-2wT 2-4-0		2-4-0	:		: :	,,,	7-7-7	0-9-0
Class	1	1 1 1	- 4th	: :	:		4th	:	4th	z	:	: :	**	1 1	1 1
No.	67 (i)	(E)	17 (E)	(E) 92 292 293 293 293 293 293 293 293 293 2	(i) 22		78 (i) 79 (i)		81 (i) 82 (ii)	83 (i)					30 (E) 81 (E)
Name	Ariadne (Rena. Chapman)	Cadmus Diomedes Grisi	Prometheus Centaur	Calypso	Phoenix	MS&L Locomotives	Flora	Aurora	Ceres Cupid	Diana	Hecate	Helena	Minerva	Mercury	Proserpine Romulus

	Lent to OWWR 11/54. Returned and sold else-	where			Built for MSJ&A	", ", ", Reb. Class 16 3/61	Scr. 1901	Reb. Class 16 6/64	Reb. Class 16 11/65.	Scr. 1901	Reb. Class 22 5/61.	Scr. 1901	Reb. Class 22 5/64	09/11 """"	,, ,, 2/69	,, ,, 1/65	,, ,, 5/66		29/9/54	Reb. Class 22 9/66	Sold 29/9/54 to OWWR	Reb. Class 22 1/64	Reb. Class 22 12/65	Reb. Class 22 5/64	Sold 30/6/54 to Ebbw Vale	Co. Sold 30/6/54 to LBSCR	(No. 117 later No. 362)
16"×24" 16"×20"	*	:	:	*	15" × 20"	16" × 21"		:	:		18" × 24"			2	:	:	:	÷	:	:	:	:	:	:	:	:	
3′6″	**	:	:	î	2 :	: :	:	:	:		2.1		1	t	ı	1	1	1	ı	ı	ı	1	1	1	ı	ī	
2,0″	:	:	,,	:	5'6"			:	:		4′4″		:		2.0	4 4	5.0″	:		, 4 , 4	2,0,	3.3		:	:		
2,400	:	ī	:	2 300	1,900	2,050		:	ţ		2,500		:	**	:	**	**	t	:	•	2	:	**	**	:	:	
W SB 626	070 "	,, 629	,, 630		,, 649	,, 650 F		,,	2		"RS 828	000	,, 022	., 030	000	7, 832	., 833	,, 834	,, 835	,, 836	, 83/		,, 721	,, 729	., 734	,, 739	
8/49 21/12/49	6 6	2/2/50	22/2/50	27/3/50	7/50	1,7/50		16/7/50	00/2/0	03/10/20	27/4/52	20/4/52	22/1/27	12/5/52	76/0/71	75//01	70/1/77	76/8/87	75/6	30/11/52	10/1/53	28/4/53	31/5/53	5/8/53	13/9/53	30/9/53	
0-6-0		*	3.3	: :	2-2-2wT	2-2-2		66	3.5		0-9-0		0.00	66		6.6	:	2	:	:	2.0		1	:		4.	
- 4th	:		:	: :	: 1	1 1		ı	1		Ist		*	:	:	,,	:	•	î	:	•	:	:	**	:	:	
92 (E) 93 (E) 94 (E)						E(E) 86 —		33 33			103	104 (1)	105	(1) 901		200			E ((E)		E:		(2) 911	(i) ZII	
Pyrrhus Leander Castor		Cato	Typhon	Idas	Juno	Caliban		Tember	200	Prospero	Olympus	Aetna	Herla	Andes	Cantrague	Coloseus	Chimborazo	Himalaya	Vocuvius	Viso	Acmon	Libitor	Damer	Calmon A=int	Aries	Orestes	

Remarks	Lent to OWWR 11/54.	Reb. Class 22 2/61 Sold 30/6/54 to MRC (No. 1) Jafer GWR	313) 6/54 to LB	Sold 30/6/54 to MRC (No. 2)	Sold to LNWR 9/1/63 First locomotive to be built at Gorton		Reno. 172 (ii) 24/11/93	Scr. 5/02 Reno. 173 (iii) 4/12/93 Scr. 1900	Scr. 2/02 Originally intended for		Reb. and reno. 67 (iii)	~	Scr. 1/04 Reno. 210 (ii) 10/3/02. Scr. 11/04
Cylinders dia. x stroke	18" × 24"	: :	•	:	14" × 18" 17" × 24"	::	16½" × 24"	:	;; [4" × 18"	: :	16" × 22"	", 16½″ × 24″	
Dia. of other wheels	1	1 1	1	1	2′9″	1 1	1 1	1	not known			1 2 2	ı
Dia. of driving or coupled wheels	2.0″	* *		:	5.0″	::	5′3″		:::	: :	,0,9	5/3″	
Cost	2,500		\$	6	894	1-1	2,435	:	1,000	£ :	2,100	2,435	:
Maker and No.	SS 745	,, 752 ,, 755	692 "	,, 770	E 139 MS&L	::	KN 713	,, 714	,, 715 ,, 716 F			" " KN 721	722
Date	15/12/53	26/12/53 28/2/54	/54	/54	3/58	4/58 3/59	10/59	65/11	: : :	6		28/11/59 3/12/59 12/59	17/12/59
Туре	0-9-0	: :		\$	2-2-2wT 0-6-0	: :	: :	:	2-2-2	*	2-4-0	0-9-0	*
Class	Ist	÷ 1	l	ı	1 5	::	23	:	::4	* :	25	; ;23	.
No.	118 (i)	119 (i) 120 (i)	121 (i)	122 (i)	123 (i) 6 (ii)	7 (ii) 36 (ii)	23 (ii) 10 10 10	112 (ii)		5 (ii)		128 (E) 129 (E) 118 (E)	120 (ii)
Name	Pollux	Helicon Nestor	Europa	Parnassus	Watkin Archimedes	Phlegon -	I 1	I	1 1 1		1.1	1 1 1	1

		Scr. 8/02 Scr. 1900 Scr. 1901 Scr. 1901 Scr. 1901 Scr. 2/07 as 28B Scr. 3/04 Scr. 1901 Scr. 1901 Scr. 1901 Scr. 1901 Scr. 1901 Scr. 1901 Scr. 1901 Scr. 1/04 Scr. 1/04
16½" × 24" ","	15½" × 20″ 16½" × 24″	;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
111	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3,3,11111111,3,3,1111111111111111111111
5.3	5.3	ν
2,435	2,635	2,585
KN 723 724 730	731 732 774 775 MS&L KN 815	816 817 818 818 819 819 820 819 819 819 819 819 819 819 819
27/12/59 1/60 24/1/60 1/2/60	22/2/60 6/3/60 26/7/60 4/8/60 /60 3/61	4/61 6/61 7/61 7/61 7/61 7/61 7/62 10/62 10/62 11/62 5/63 30/5/63 26/63 26/63 26/63
0-9-0	2-4-0wT	2-4-0 0-6-0
23	233	
127 128 129 129 129 129 129 129 129 129 129 129	253 <u>3378</u>	284384298483848488 28438475884888888888888888888888888888888
111	111111	Whitmore Perseverance

Remarks	9" Reb. Class 1A /92. Scr. 3/04 8cr. 3/04 As 140B reno. 157 (iii) 1/9/04. Scr. 10/07 8cr. 1907 as 142B 8cr. 7/04 8cr. 8/02 8cr. 1901
Cylinders dia. x stroke	15½" × 20″ 16½" × 24″
Dia. of other wheels	3,6,8
Dia. of driving or coupled wheels	57.0%
Cost	2585
Maker and No.	MS&L KN 1091 1098 1100 1102 1103 MS&L
Date	6/63 22/10/63 22/11/63 9/11/63 19/11/63 ".
Туре	2-4-0WT
Class	-8: ::::8
Š	20 139 140 144 144 144 145 145 145 145 145 145 145
Name	1 1 1 1 1 1 1 1 1

Summary of locomotive classes at 31st December 1863

Class 1 – 2-4-0 WT double framed 23 (ii), 12 (ii), 12 (ii), 12 (ii), 20 (i), 210 (i), 211 (i). Class 2 – 2-4-0 double framed (rebuilds of Sharp Bros. 2-2-2s of 1848)

Class 3 - 0-6-0 (rebuilds of Sharp Bros. 0-6-0s of 1846-1850) 68 (i); subsequent additions: 62 (i), 69 (i).

3 (ii), 26 (i), 30 (i), 46 (i), 48 (i); subsequent additions: 34 (i), 44 (i), 45 (i), 47 (i), 49 (i). Class 4 - 2-2-2

1 (ii), 5 (ii), 8 (ii), 52 (ii).

Class 5 - 0-6-0

67 (ii), 76 (ii); subsequent additions: 2 (iii), 65 (ii), 68 (ii), 77 (ii), 96 (ii). 6 (ii), 7 (ii), 36 (ii), 53 (ii). Class 8 – 2-4-0 double framed

Class 13 - 0-6-0 double framed

21 (ii), 63 (ii); subsequent additions: 51 (ii), 54 (ii), 132 (ii).

Note: Nos. 51 and 63 had footplating raised over the coupled wheels. The others had flat footplating throughout. Class 16 - 2-4-0 double framed (rebuilds of Fairbairn 2-2-2s of 1849-1850)

70 (i), 99 (i); subsequent additions: 100 (i), 101 (i).

Class 19 - 2-4-0 double framed (rebuilds of Hawthorn 2-4-0s of 1849)

Class 22 - 0-6-0 (rebuilds of Stephenson and Sharp Stewart 0-6-0s of 1852–1853)
103 (j), 105 (j), 119 (j); subsequent additions: 104 (j), 106 (j), 107 (j), 108 (j), 109 (j), 111 (j), 113 (j), 114 (j), 115 (j).
Class 23 - 0-6-0 double framed 81 (i), 83 (i); subsequent additions: 79 (i), 80 (i), 82 (i). Class 20 – 2-4-0 (rebuilds of Hawthorn 2-4-0s and 2-2-2s of 1849–1850) 89 (i); subsequent additions: 85 (i), 86 (i), 87 (i), 88 (i).

15 (ii), 18 (ii), 25 (ii), 27 (ii), 28 (ii), 29 (ii), 50 (ii), 84 (ii), 110 (ii), 115 (ii), 116 (ii), 117 (ii), 118 (ii), 120 (ii), 121 (ii), 122 (ii), 123 (i), 131 (i), 132 (i), 134 (i), 134 (i), 135 (i), 136 (i), 137 (i), 139 (i), 139 (i), 141 (i), 142 (i), 143 (i), 144 (i), 145 (i). The numerous subsequent additions will be given in Vol. II.

Class 25 - 2-4-0

APPENDIX V

MANCHESTER, SHEFFIELD & LINCOLNSHIRE RAILWAY Incorporated 27th July 1846

Chairmen, Deputy Chairmen, Directors and Officers 1847-1863

Chairmen Earl of Yarborough (2nd earl)	1847–1860	Edward William Watkin ¹⁸ Hon. William George Eden ¹³	1863
John Chapman ¹⁵ Deputy Chairmen John Chapman William Fenton	1847~1860 1860~1861	Thomas Rawson Barker ¹³ John Parker, M.P., was nam in the Act of Incorpora not take his place on the	ation but did
Thomas Rawson Barker ¹⁴ William Fenton ¹³ Directors Dr Mariano Martin de Bartolomé Thomas Blake	1861–1863 1863 1847–1850 1847–1850	General Managers James Meadows James Joseph Allport Edward William Watkin Robert George Underdown ¹³	1848 1850–1853 1854–1861
Michael Ellison George Fieschi Heneage Richard Matley ¹ Cornelius Randall John Jobson Smith	1847-1850 1847-1850 1847 1847-1849 1847-1849	Secretaries James Meadows John Hambly Humfrey Edward Ross ⁴⁻¹³	1847–1848 1848–1850 1850–1863
Richard Thorold Charles Turner ¹³ James Wall ¹	1847–1850 1847–1863 1847	Assistant Secretary John Hambly Humfrey	1847-1848
George Monier Williams John Woodcroft	1847–1850 1847–1849	Accountant and Bookkeeper S. Huffam	1847-1850
Joseph St John Yates ¹ Thomas Gisborne, M.P. ² John Gouldesborough ² Charles Haigh ²	1847 1847–1848 1847–1849 1847–1849	Chief Accountant Robert George Underdown ⁵	1854–1861
John Whittaker ² Richard Whitehall Coates ³	1847–1850 1847–1849	Accountant Robert Williams ¹³	1861-1863
Charles Holland ³ Thomas Greig Samuel Lees Thomas Rawson Barker	1847–1849 1849–1857 1849–1863 1850–1861	Engineers-in-Chief Alfred Stanistreet Jee ⁶ John Fowler ⁷	1847–1848 1847–1853
William Henry Brook George Gamble William Hutton ¹³	1850–1862 1850–1863 1850–1863	Engineers James Potter Robert Russel	1853–1855 1855–1859
Charles Frederick Younge Charles Geach Samuel Morton Peto Charles Hindley Alexander Shand ¹³ Sir Andrew Orr	1850-1863 1850-1854 1850-1855 1855-1857 1855-1863 1859-1862	Resident Engineers John Bass Thomas Dodd George Ellis James Potter	1847 1847 1847–1849 1849–1853
William Fenton {	1859–1860 1861–1863	Locomotive Superintendents Richard Peacock William Grindley Craig ⁸	1847–1854 1854–1859
Earl of Yarborough (2nd Earl) Richard Withers ¹³ John Pender ¹³ Sam Mendel	1860–1862 1862–1863 1862–1863 1862–1863	Engineer and Superintendent and Stores Depts. Charles Reboul Sacré ^{9,13}	
Andrew McDougall ¹³ Earl of Yarborough	1863	Goods Managers C. W. Eborall ¹⁰ Charles Henry Smith ^{11,13}	1847–1849 1850–1863

Superintendents Walthall Gretton ¹² Thomas Hargreaves William Bradley ¹³	1847–1851 1852–1862 1862–1863	Law Clerks Joseph W. Stable Joseph Guy	1850-1853 1853-1862
Canal Manager Robert Smith	1848–1863	Solicitor John Rowson Lingard ¹³	1862–1863

NOTES

 Resigned 17th February 1847.
 Elected 17th February 1847.
 Designated Secretary and Bookkeeper until appointment of R. G. Underdown as Chief Accountant.

⁶ Also Assistant Manager from 14th January 1859 until his appointment as General Manager.

6 Became Consulting Engineer 1st January 1849.

Designated Principal Engineer 1st January 1850; became Consulting Engineer with James Potter's appointment as Engineer.

⁸ Became Superintendent of Locomotive & Stores Depts. 1856.

Took over docks engineering April 1862 and canal engineering July 1863.

Lo Designated Traffic Manager 10th April 1849.

¹¹ No minute recording his appointment as Goods Manager can be traced, but the GCR Journal of September 1905 stated that he was appointed in 1850 and came from the York, Newcastle & Berwick Railway.

12 Designated Coaching Superintendent 1st November 1848 and Superintendent of the Line 10th

April 1849.

13 Continued in office after 1863.

11 Resigned office of Deputy Chairman 6th November 1863 and continued as a Director.

¹⁵ Continued in office after 1863, becoming a Director on 27th January 1864.

16 Continued in office after 1863, becoming Chairman on 27th January 1864.

APPENDIX VI

VESSELS OWNED BY ANGLO-FRENCH STEAMSHIP COMPANY

Name	Year built	Type	Name	Year built	Туре
Eugenie	1855	Iron PS	Lord Cardigan	1855	22
Victoria	1856	23	Grimsby	1857	93
Napoleon	1856	33	Barnsley	1857	99
Albert	1856	Iron SS	Yarbro'	not known	not known

VESSELS OWNED BY DEEP SEA FISHING COMPANY

(As recorded by MS&L Finance Committee 29th June 1855)

Name	Date of Purchase	Vendor	Rig	Description	Tonnage	Amount or Estimated cost
William	1 12 54	R. Keetley	Cutter	Welled smack	75	£900
Thomas	22	11	22	,, ,, (screw	83	£996
Polly	27	23	22	Dry bottom	25	£265
Temperance	3.3	3-3	93	smack	25	£265
Al	2.2	33	Not rigged	Store vessel	40	£300
Mary Ann	3.9	5.5	12	Steam tug	20	£300
Mary	35	Howard's Assignees	Cutter	Welled smack	65	£320
British	20 20	21	29	23 23	45	£85

Neptune Yarborough	30/3/55	GNR R. Palmer	Not rigged Cutter	Store vessel Dry bottom	45 To be	£358 10s £704 8s
Pearl	3/4/55	W. R. Bateman	Dandy	smack Welled smack (screw)	measured 53	£690
Edmund Denison	30/5/55	Built for Co by R. Keetley	Cutter	,, ,,	50	Cost not

APPENDIX VII

SOUTH YORKSHIRE RAILWAY

Incorporated 22nd July 1847 as the South Yorkshire, Doncaster & Goole Railway

Name changed 19th April 1850 to South Yorkshire Railway & River Dun Company

Chairmen, Vice-Chairmen, Deputy Chairmen, Directors and Officers 1847-23rd June 1864

Chairmen Dr Robert Dymond, M.D.¹ Earl Fitzwilliam (5th Earl) Dr Robert Dymond, M.D. Rt. Hon. John Parker¹¹² John Walbancke Childers Rt. Hon. John Parker Hon. William George Eden² Vice-Chairmen William Gordon Thomson¹ Dr Robert Dymond, M.D. Lord Wharncliffe (2nd Baron)¹	1848–1857 1857–1858 1858 1859–1860 1860–1863 1863–1864	Dr Edward Scholfield ³ Sir Robert Carden George S. Lister Robert J. Bentley ³ S. Herbert Staniforth ³ John Walbancke Childers Thomas Rawson Barker ³ George Gamble William Hutton ³ Samuel Lees Richard Withers ⁸ William Fenton ³	1858 1864 1858-1864 1860-1863 1860-1864 1860-1864 1860-1863 1861-1863 1861-1863 1861-1863 1863-1864
Deputy Chairmen Rt. Hon. John Parker George S. Lister ³	1859–1860 1861–1864	Hon. William George Eden Charles Bartholomew ³ Officers	1863-1864
Directors Hon. Frederick Henry Fitzhardinge Berkeley¹ Samuel Bailey¹ William Carr¹ Edmund Denison¹ John Mintorn¹ William Morley¹ William Newman¹,³ Samuel Roberts, Junior¹,³ and William Vizard¹ Frederick William Thomas Vernon Wentworth¹ George Hussey Packe³	1847-1860 1847-1858 1847-1860 1847-1853 1847-1856 1847-1856 1847-1848 1847-1864 1847-1857 1859-1864 1847-1848	Secretaries J. Charles Handfield C. H. Thiel³ Manager C. H. Thiel Englneer and Manager Charles Bartholomew Engineers Charles Bartholomew Charles Reboul Sacré³ Mineral Traffic Manager Edward Wilson Traffic Manager William English	1847-1856 1856-1864 1863-1864 1848-1858 1858-1861 1861-1864 1857-1858 1858-1863

¹ Also member of Provisional Board, the other members of which were C. Downes, W. B. Martin, John Read, Lord Wharncliffe, W. Wilberforce and Josiah Wilson. Parker resigned on 6th July 1846 and was succeeded by Thomas Drane who, with Downes and Wilson, resigned on the 11th of the following month.

of the following month.

² Elected Chairman 4th December 1858 but owing to illness J. W. Childers took his place on 15th January 1859.

³ Continued in office after 23rd June 1864.

APPENDIX VIII

SOUTH YORKSHIRE LOCOMOTIVES 1849-1864

showing principal dimensions as originally built

2	<u> </u>
Kitson & Co. South Yorkshire Railway (at Mexborough) Thwaires Rros.	E. B. Wilson
Abbreviations used for locomotive builders B Edward Bury BP Beyer Peacock & Co. SY D William Dodds,	

Other abbreviations L Possibly on loan for a period before purchase LN Similar to those of the same builder for the Stockton & Darlington Railway and acquired from the Leeds	~ ~ × ×
Other ab	Reb. Reno. Scr.
iilway	

Remarks	Became MS&L No. 152 " " No. 153 " No. 154 " No. 154 " No. 154 " Reb. 1868 Became MS&L No. 156 Extensively reb. 1860. Became MS&L No. 159 Became MS&L No. 160 " Reb. 1868 Became MS&L No. 161 " Reb. 1868
Cylinders dia. x stroke	16" × 20"? 16" × 24" ". 15" × 24" 15" × 24" ".
Dia. of other wheels	4'6" 3'6" " not known not known 5'0" 4'6" 4'6"
Dia. of coupled or driving wheels	4'6" "" not known 5'0" 5'6" 4'6" 5'0"
Cost	
Maker and No.	B W W W TTB GW 19 20 21 508
Date	1849 L """" 1848 LN 1849 LN """"
Туре	0-4-2 0-6-0 0-6-0
No.	-2E4 59 78 60 I
Name	Vampire Fitzwilliam Wharncliffe Albion

Became MS&L No. 163	Keb. Class 1B. Reno. 89 (iii) 5/1/94. Scr. 9/06 Became MS&L No. 165	Reb. 1865 Became MS&L No. 166	", No. 167	Reno. 100 (ii) 3/11/93. Scr. 1901	Became MS&L No. 168	,, No. 169	" No. 170	Reno. 116 (iii) 20/10/93.	Scr. 1901 Became MS&L No. 171	" No. 172	Reb. Class 23 in 1869.	Reno. 119 (ii) 24/11/93.	Scr. [90]	Became MS&L No. 173	" No. 174	Class 23. Scr. 6/04	Became MS&L No. 175	Class 23. Scr. 3/02	Became MS&L No. 176	Class 23. Scr. 1901	Became MS&L No. 177	Class 23, Scr. 10/03	Became MS&L No. 1/8	Class 23. Scr. 7/02	Became MS&L No. 179	Class 23. Scr. 1/03
16"×24" 15 <u>1</u> "×20"	16" × 24"	:	:		•	:			:	16½" × 24"				16" × 24"	16½" × 24"				:		ž,		:		:	٠,
2.9″	1	ı	l		t	ı	ı		ı	1				1	1		I		ı		1		t		1	
5′0″	:	:	•		5.2″	:	:		5.0″	5.2"				2,0″	:		:		:		:		:		*	
										2,750				_	7,600				:		:		:		:	
W 509	>	÷	**		KN 697		,, 702		SY	KN 919				SY	BP 373	į	,, 374	1	,, 3/5		,, 376	1	,, 3//	i	,, 3/8	
1856	£		**		1859		,,		1981	,				1862	1864		:		:		*	_	:		**	
0-6-0	0-9-0	:	:			:	:			:				*			;		11		*		**			
137	4	15	91				6		20	21				77	73	;	24	L	57		76	10	/7	6	87	
1 1		ı	1		1	1	•		1					i	1		ı		ı		ı		1		ı	

APPENDIX IX

EARLY TRAIN SERVICES ON THE HYDE, OA&GB, MARPLE, STOCKPORT & WOODLEY JUNCTION, CHESHIRE MIDLAND AND CLEETHORPES LINES

HYDE LINE (from Bradshaw's Guide of March 1858)

DOWN TRAINS			WE	EKDA	YS			SUNDAYS			
Hyde dep Guide Bridge Fairfield Gorton Ashbury's Ardwick Manchester London Road arr	0.26	a.m. 9 30 	a.m.	p.m. * 2 4 2 10 2 15 2 19 2 23 2 29 2 32	p.m. * 4 40 4 35 4 40 — 4 50 4 53	5 24 5 30 — — 5 42 5 45	p.m. 7 30 7 36 7 41 7 45 7 49 7 54 7 58	a.m. 9 50 9 56 10 0 10 4 10 8 10 14 10 17	p.m. 4 30 4 36 4 41 4 45 4 48 4 52 4 55	p.m. 6 45 6 50 6 57 7 2 7 5	
UP TRAINS		WEEKDAYS								YS	
Manchester London Road dep Ardwick	0.50	a.m.	0 1 4 1 0 1 1 1 1 1 1 1 1	0 3 5 3 8	54	P.M. 4 15 — — 4 35 4 40	p.m. 8 30 8 34 8 37 8 42 8 46 8 52 9 8	a.m. 10 25 10 29 10 33 10 37 10 41 10 46 10 52		P.m. * 6 14 6 18 6 23 6 27 6 32 6 37	
	* Change at Guide Bridge.										

OA&GB LINE (from Bradshaw's Guide of September 1861)

DOWN TRAINS						WEE	KDAY	S					SUNDAYS							
Oldham	a.m.	. a.m.	a.m.	a,m,	p.m.	p.m.	p.m.	p.m.	. p.m.	p.m.	p.m.	p.m.	a,m.	a.m.	a.m.	p.m.	I P			
Clegg Street dep. Park Bridge	6 5	8 25 8 29				1 45	3 0 3 4	3 55	4 45	5 50 5 55	7 0 7 5	9 20 9 24	7 0 7 4	8 55 9 0	10 0	4 45 4 50	1			
Ashton Oldham Road Ashton Moss Guide Bridge	6 15 6 18 6 25	8 33	9 48 9 57	11 8	12 22	=	3 8	4 2	_	6 0	7 10 7 15	9 28 9 35	7 8 7 10 7 15	9 5	10 10	4 55	9			
Fairfield Gorton Ashbury's (Belle Vue)	6 30 6 35 6 40 6 45	8 45	10 6		12 27	- - 2 2	3 27 3 31 3 35 3 40	4 20 4 24		6 17 6 20 6 25	7 25 7 30	9 42	7 20 7 25 7 30 7 35	9 23 9 27 — 9 36	10 18	5 10 5 15 5 20	1			
Manchester London Road arr.	6 50	8 50	1	1	1		3 43	4 28		6 30	7 35	9 45	7 40	9 40	10 30		1 7			
UP TRAINS							SI	UNDA	YS											
h	a.m.	a.m.	a.m.	a.m.	a.m.	p.m.	p.m. p	p.m. p	p.m. p.r	m, p.m.	. p.m.	p.m.	a.m.	a.m.	p.m.	p.m.	P			
Manchester London Road dep. Ardwick Ashbury's (Belle Vue) Gorton	7 33 7 40 7 43 7 46	_	10 10 10 14 10 18 10 23		11 43 1	12 15 12 19		3 4 3	3 55 5 I 3 59 —	5 40	8 0 8 4 8 7	10 0 10 4 10 8	7 55 7 59 8 2 8 5	9 0 9 4 9 8 9 12	1 50 1 55	6 30	10			
Gorton Fairfield Guide Bridge Ashton Moss	7 50	_	10 27	10 40	_	12 35	2 40	3 16 3 25 4	4 20 =	5 55	_	10 23	8 10 8 19 8 22	9 16 9 23 —	2 3	6 45	1			
Oldham Road Park Bridge	8 2 8 6	=	::	10 45		12 40 12 45			4 24 5 2		8 32 8 36	10 27	8 25 8 30	9 28 9 33	2 10 2 15	6 50 6 55	1:			
Clegg Street arr.	8 10	9 30		10 50	120	12 50	2 50 3	3 40 4	4 30 5 3	30 6 5	8 40	10 35	8 35	9 38	2 20	7 0	Н			

^{*} Change at Guide Bridge.

On Saturdays extra trains are run from Oldham to Ashbury's at 3 15 p.m. returning at 10 30 p.m., and to Alderley at 2 30 p.m. returning at 8 15 p.m.

MARPLE LINE (from Bradshaw's Guide of September 1862)

DOWN TRAINS		WEEK	DAYS			su	NDAY	rs			
Marple dep. Romiley Woodley Hyde Guide Bridge Fairfield Gorton Ashbury's (Belle Vue) Ardwick Manchester London Road arr.	a.m. a.m. 8 0 9 45 8 4 9 49 8 9 9 54 8 17 10 1 8 23 10 6 8 30 — 8 40 10 18 8 45 10 22	p.m. p.m.	p.m. p.m 3 10 4 3 14 4 3 20 4 3 25 4 3 35 4 3 43 4 4 3 52 4 5	5 5 55 9 5 58 4 6 3 1 6 8 8 6 13 4 — 4 6 31	p.m. * 8 10 8 14 8 19 8 26 8 33 — 8 55	a.m. * 10 55 10 59 11 4 11 10 11 15 11 25 11 32	p.m. 2 15 2 19 2 24 2 31 2 36 2 43 2 47 2 51 2 56 3 0	p.m. 6 50 6 54 6 59 7 6 7 12 7 20 7 26 7 30			
UP TRAINS		WEEK	DAYS	·		su	INDAY	rs			
Manchester London Road dep. Ardwick Ashbury's (Belle Vue) Gorton Fairfield Guide Bridge Hyde Woodley Romiley Marple arr.	a.m. a.m. 8 55 0 8 58 1 4 1 7 9 4 1 12 9 7 1 6 9 12 1 22 9 18 1 30 9 25 1 37 9 30 1 42 9 35 1 46	p.m. p.m. 20 2 15 24 2 19 30 2 25 2 29 38 2 35 46 2 42 53 2 49 58 2 55 2 2 3 0	3 24 5 1 3 30 — 3 34 — 3 40 5 2 3 47 5 3 3 54 5 3 4 0 5 4	0 7 0 4 7 4 7 8 7 12 7 16 5 7 22 0 7 29 6 7 36	P.m. * 8 25 8 29 8 32 8 36 8 40 8 50 8 57 9 4 9 10 9 15	a.m. * 9 55 9 59 - 10 6 10 10 10 22 10 29 10 37 10 42 10 48	p.m. 1 15 1 19 1 22 1 26 1 31 1 37 1 45 1 53 1 58 2 2	6 0 6 4 6 10 6 14 6 19 6 26 6 33 6 38 6 42			
* Change at Guide Bridge.											

STOCKPORT & WOODLEY JUNCTION LINE (from Bradshaw's Guide of February 1863)

DOWN TRAINS			WE	EKDA	rs .				SUN	DAYS		
Stockport dep. Woodley Junction Hyde Hyde Junction Guide Bridge Fairfield Gorton Ashbury's (Belle Vue) Ardwick Manchester London Road arr.	a.m. 7 40 7 54 7 57 8 8 - 8 20 8 25	a.m. 9 10 9 21 9 30 9 42 9 45	a.m. 	p.m. 1 30 1 42 1 49 	p.m. 2 45 2 55 3 1 3 10 — 3 19 3 22	5 0 5 11 5 17 5 26 	p.m. 7 20 7 32 7 40 7 43 7 48	a.m. 8 40 8 54 9 0 9 4 9 15 9 21 9 26 9 36 9 40	p.m. 2 10 2 22 2 28 2 32 2 42 2 47 2 50 2 53 2 57 3 0	p.m. 4 25 4 41 4 47 4 51 5 5 5 10 5 14 5 17 5 21 5 25	p.m. 6 15 6 27 6 33 6 37 7 12 — 7 20 — 7 26	
UP TRAINS			WE	EKDA	rs			SUNDAYS				
Manchester London Road dep. Ardwick Ashbury's (Belle Vue) Gorton Fairfield Guide Bridge Hyde Junction Woodley Junction Stockport arr.	8 9 8 13 8 17 8 21 8 28 8 33 8 36 8 43	a.m. 10 20 10 23 — 10 33 — 10 39 10 45 10 55	p.m	p.m. 50 55 	p.m. 4 5 4 8 — 4 20 — 4 27 4 35 4 45	p.m. 6 5 6 8 — 6 18 6 25 6 33 6 45	P.m. 8 5 8 9 8 12 8 17 8 21 8 30 8 35 8 38 8 46	a.m. 9 0 9 4 9 8 9 12 9 16 9 25 9 30 9 33 9 41	p.m. 2 45 2 49 2 53 2 57 3 14 3 18 3 25 3 35	p.m. 5 30 5 35 5 38 5 45 5 55	p.m. 6 20 6 24 6 27 6 31 6 35 7 0 7 10 7 20	

CHESHIRE MIDLAND ALTRINCHAM-KNUTSFORD LINE (from Bradshaw's Guide of June 1862)

DOWN TRAINS	WEEKDAYS				SUNDAYS						
Knutsford Mobberley Ashley Bowdon (Peel Causeway) Altrincham	dep.	a.m. 8 0 8 7 8 12 8 17 8 20	a.m. 10 35 10 41 10 47 10 55 10 58	P.m. 1 50 1 57 2 3 2 8 2 11	p.m. 4 35 4 42 4 48 4 52 4 55	p.m. 6 45 6 52 6 58 7 3 7 7	p.m. 8 50 8 57 9 2 9 7 9 10	a.m. 9 5 9 12 9 17 9 22 9 25	a.m. 10 40 — — — II 0	p.m. 2 20 2 27 2 33 2 38 2 42	p.m. 8 5 8 12 8 17 8 22 8 25
UP TRAINS		WEEKDAYS			SUNDAYS						
Altrincham Bowdon (Peel Causeway) Ashley	dep.	a.m. 7 0 7 3 7 8 7 14	a.m. 8 47 8 50 8 55 9 1	a.m. 11 55 11 58 12 3	p.m. 2 55 2 58 3 3 3 9	p.m. 5 30 5 33 5 38 5 44	p.m. 7 55 7 58 8 3 8 9	a.m. 8 30 8 33 8 38 8 44	a.m. 10 10 10 13 10 18 10 24	p.m. 1 38 1 41 1 46 1 52	p.m. 6 40 6 43 6 48 6 54

CHESHIRE MIDLAND

ALTRINCHAM-NORTHWICH LINE (from Bradshaw's Guide of January 1863)

DOWN TRAINS	WEEKD	SUNDAYS			
Northwich dep. Lostock Plumbley Knutsford Mobberley Ashley Bowdon (Peel Causeway) Altrincham arr.	a.m. p.m. 1 30 7 45 10 20 1 35 7 52 10 27 1 42 8 0 10 35 1 50 8 7 10 41 1 57 8 12 10 47 2 3 8 18 10 53 2 8 8 22 10 56 2 12	p.m. p.m. p.m. 4 15 6 30 8 40 4 20 6 35 8 45 4 27 6 42 8 52 4 35 6 50 9 0 4 42 6 57 9 7 4 48 7 3 9 12 4 53 7 8 9 17 4 56 7 12 9 22	8 45 1 15 8 50 1 20 8 57 1 27 9 5 1 35 9 12 1 42 9 17 1 48 9 22 1 53	p.m. p.m. 4 30 7 45 4 35 7 50 4 42 7 57 4 50 8 5 4 57 8 12 5 2 8 17 5 8 8 23 5 12 8 26	
UP TRAINS	WEEKD	SUNDAYS			
Altrincham dep. Bowdon (Peel Causeway) Ashley Mobberley Knutsford Plumbley Lostock Northwich * On Saturdays t	a.m. a.m. a.m. 6 40 8 45 11 50 6 43 8 48 11 53 6 48 8 53 11 57 6 54 8 57 12 2 7 2 9 10 12 10 7 9 9 17 12 17 7 15 9 24 12 24 7 20 9 30 12 30	p.m. p.m. p.m. 2 52 5 23 7 50 2 56 5 26 7 53 3 0 5 31 7 58 3 7 5 37 8 4 3 15 5 45 8 12 3 22 5 52 8 19 3 29 6 5 8 8 30 1 of the 5 15 p.m. from	7 45 10 5 7 48 10 8 7 53 10 13 7 59 10 20 8 7 10 30 8 15 10 37 8 23 10 44 8 30 10 50	p.m. p.m. 3 20 6 35 3 23 6 38 3 28 6 43 3 34 6 49 3 40 6 57 7 7 5 3 54 7 12 4 0 7 20	

CLEETHORPES LINE (from Bradshaw's Guide of April 1863)

TN Through train to New Holland.

DOWN T	WEEKDAYS					SUNDAYS			
Grimsby Grimsby Docks Cleethorpes	dep.	a.m. a.m. TN TN 7 38 9 18 7 46 9 22 7 50 9 26	p.m. TN 12 28 12 36 12 40	p.m. TN 2 3 2 11 2 15	p.m. 5 15 5 23 5 28	p.m. TU 9 17 9 25 C	a.m. TN 9 29 9 37 9 41	p.m. TU 12 28 12 36 12 40	p.m. TU 9 7 9 15 C
C Runs to Cleethorpes when required. TN Through train from New Holland. TU Through train from Ulceby.									
UP TRA	AINS		WEEK	DAYS			su	JNDAY	s

TU Through train to Ulceby.

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